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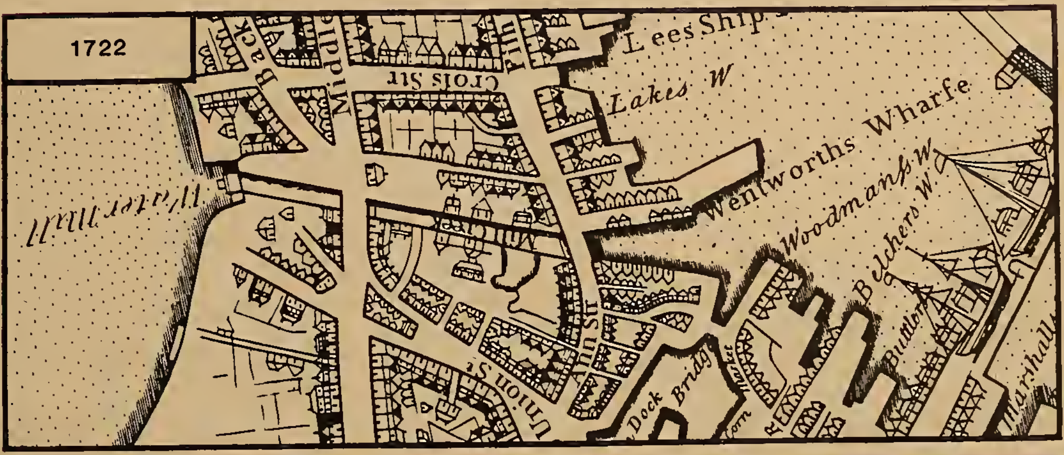

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Phase II Archaeological Investigations of the Central Artery/Third Harbor Tunnel Project in Boston, Massachusetts

Volume One: Text and Illustrations

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Management Summary

This report presents the results of the Phase II archaeological survey of the proposed Central Artery/Third Harbor Tunnel Project in Boston, Massachusetts. The archaeological investigation was undertaken for the Massachusetts Department of Public Works and the Federal Highway Administration in accordance with Section 106 of the National Historic Preservation Act. The Office of Public Archaeology at Boston University conducted the Phase II archaeological testing program.

The goals of the Phase II study were to conduct subsurface testing at the sites recommended by the Phase I survey; to evaluate their integrity, characteristics, and boundaries; and to evaluate their eligibility for inclusion in the National Register of Historic Places.

A total of six study blocks were tested during the Phase II study: MP01, NE03, TC01, TC02, SC02, and SB10. Eleven test trenches were excavated in these blocks—one each in TC01, TC02, SC02, and SB10; two in MP01, and five in NE03. Three sites were determined to be potentially significant and undisturbed; they are considered eligible for inclusion to the National Register under Criteria C and D. These are: 1) Mill Pond Wharf Site (NE03 Trench A), where the well preserved remains of a late 17th-/early 18th-century private wharf were found extending into the former Mill Pond; 2) Paddy's Alley Backlot Site (NE03 Trench C, "Storage" lot), where undisturbed residential deposits from a late 17th early 18th-century houselot were discovered; and 3) Cross Street Backlot Site (NE03 Trench C, "Open Lot") an undeveloped portion of a historical backlot which contained two features, one dating to the late 17th/early 18th century, the other a privy-type feature dating to the early 19th century.

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Report graphics were prepared by David Clayton and Brendan McDermott. The former prepared the site plans and profiles, and also directed the field surveying and coordinated the preparation of site plans. The latter contributed most of the historical map graphics for the report.

Photography for the project was conducted by Sara Mascia and Michael Hamilton. Mascia took the field photographs, while Hamilton shot the artifacts and did other studio work.

Sara Mascia coordinated the public information activities for the project, both in the field as site interpreter and in the office, where she acted as liaison between the University and the management consultant. Martha Lepore (BU Public Relations) coordinated the University's media efforts for the project.

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Chapter 1

Introduction

This report presents the results of the Phase II archaeological survey of the Central Artery/Third Harbor Tunnel Project in Boston, Massachusetts. The archaeological investigation was conducted for the Massachusetts Department of Public Works (MDPW) and the Federal Highway Administration (FHWA) by the Office of Public Archaeology at Boston University. The archaeological survey was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966 (amended 1980) and its implementing regulations (36 CFR Part 800), which require a federal agency "to take into account the effects of the agency's undertakings on properties included in or eligible for the National Register of Historic Places" (Section 800.1).

The Central Artery/Third Harbor Tunnel Project will involve the widening and depression of the Central Artery (I-93) in downtown Boston and the extension of the Massachusetts Turnpike (I-90) across Boston Harbor to Logan Airport and East Boston (Fig. 1.1). The project area studied during the archaeological investigation covered approximately 7.5 miles of intensively urbanized land.

The Phase II archaeological survey was conducted by the Office of Public Archaeology under contract to the Massachusetts Department of Public Works. The investigation began on 20 May 1988. During the months of May through September, Phase II historical research was conducted and access agreements were obtained from the various private, city, and state owners of the archaeological test sites. Field testing of all test sites but one took place from mid-October through December, 1988, under archaeological permit no. 961 from the Massachusetts Historical Commission; testing at the last site (TC01) was conducted in March, 1989. Laboratory analyses and report preparation activities took place between October 1988 and April 1989.

Summary of the Phase I Archaeological Survey

The Phase I archaeological investigation of the project was conducted by the Office of Public Archaeology between May 1987 and May 1988. The results of the Phase I research are presented in *Report on the Phase I Archaeological Survey of the Central Artery/Third Harbor Tunnel Project in Boston, Massachusetts* (Elia and Seasholes 1989). That study consisted of intensive historical research for the project area, an assessment of existing conditions (especially disturbances), an identification of areas of undisturbed and potentially significant archaeological resources, and recommendations for Phase II testing. The Phase I survey did not include subsurface testing; instead, a combined program of Phase I (locational) and Phase II (site examination) testing was developed for the Phase II investigation.

A detailed research design for both the Phase I and Phase II archaeological investigations is presented in the Phase I report (Elia and Seasholes 1989: 9–32). The research design established a contextual basis for the identification and evaluation of archaeological resources in the Central Artery/Third Harbor project area. It contains a discussion of existing archaeological preservation frameworks at the city, state, and federal levels (Elia and Seasholes 1989: 10–13), and includes a critical discussion of previous archaeological reconnaissance studies of the Central Artery/Third Harbor Tunnel Project (Elia and Seasholes 1989: 13–15).

The research framework developed for the Phase I/Phase II archaeological investigation of the project consists of a three-part evaluative matrix that provides a consistent framework for the identification and evaluation of any archaeological resources that might be discovered in the project area. The three components of this research framework are: 1) chronological periods (Elia and Seasholes 1989: 17–18); 2) geographical study areas (Elia and Seasholes 1989: 18–20); and 3) categories of expected archaeological resources (Elia and Seasholes 1989: 21–32). The reader is referred to the Phase I report for a full discussion of the research design.

Eight chronological periods were employed in the study. These periods generally correspond to the chronological scheme used by the Massachusetts Historical Commission in its statewide planning surveys. The eight chronological periods are listed below.

1. Prehistoric Period (ca. 12,000 B.P. – ca. 1620)
2. Plantation Period (1620–1675)
3. Colonial Period (1675 – 1775)
4. Early Republic Period (1775 – 1830)
5. Early Industrial Period (1830 – 1870)
6. Late Industrial Period (1870 – 1915)
7. Early Modern Period (1915 – 1940)
8. Modern Period (1940 – present).

The Central Artery/Third Harbor Tunnel project area was divided into 13 geographical study areas. Each study area is a discrete unit in terms of spatial limits and historical development. Parts of each study area that were to be affected by the project were numbered as individual study blocks. For example, the North End comprised a single study area, with project impacts anticipated on five study blocks within that study area. Historical overviews of each study area were prepared so that specific archaeological resources from the individual study blocks could be evaluated within the context of the study block.

The 13 geographical study areas are listed below, along with their abbreviations, which served as the labelling system for the individual study blocks. Thus the North End study area was labelled NE; individual study blocks within that study area were labelled NE01, NE02, etc.

1. Charlestown (CR)
2. West End (WE)
3. Charles River (CR)
4. Mill Pond (MP)
5. North End (NE)
6. Town Cove (TC)
7. Fort Hill (FH)
8. South Cove (SC)
9. South Bay (BY)
10. Fort Point Channel (FPC)
11. South Boston (SB)
12. Inner Harbor (IH)
13. East Boston (EB)

Six broad categories of expected archaeological resources were identified in the research design. Each category was discussed in terms of its potential significance, based on various criteria of preservation, date, and location. The expected archaeological resources are: 1) prehistoric sites; 2) settlement and structures; 3) wharves and wharf-related sites; 4) landfill; 5) manufacturing and industrial sites; and 6) transportation-related sites.

The Phase I archaeological survey studied a total of 90 study blocks within the ca. 7.5-mile long project corridor. Fifteen of the 90 study blocks were determined to be likely to contain potentially significant and undisturbed archaeological resources. Current project plans, however, indicate that only 8 of the 15 blocks are still likely to be impacted by the project. The 8 blocks are: MP01, NE03, TC01, TC02, TC05, SC02, SB10, and SB12. These blocks were recommended for Phase II testing. The 7 study blocks that will not be impacted, and the remaining 75 study blocks that were considered unlikely to contain significant and intact archaeological resources, were not recommended for testing.

The Phase II Archaeological Survey

The purpose of the Phase II investigation was: 1) to locate through subsurface testing the archaeological sites identified in the Phase I recommendations; 2) to evaluate their integrity, characteristics, and boundaries; and 3) to evaluate their eligibility for inclusion in the National Register of Historic Places. As mentioned above, no subsurface testing was conducted during the Phase I survey; the Phase II investigation, therefore, was a combined Phase I and Phase II testing program, corresponding in general to the Phase I, Step 2 (intensive survey) and Phase II (site examination) as defined by the Massachusetts Historical Commission (1980: 10). Thus the Phase II testing for the Central Artery/Third Harbor Project involved not only the initial identification of targeted archaeological resources but also their immediate evaluation in the field.

During the Phase II survey, a number of alterations were made to the list of sites to be tested as new information became available or as project impacts changed. The principal changes are listed below by study block.

TC01: Two archaeological test units were recommended in this study block, one in the north and one in the south (Elia and Seasholes 1989: 332–35). Phase II research, however, indicated that there were extensive Central Artery ramp foundations as well as water and sewer pipelines throughout the north test area. For these reasons, TC01 (North) was omitted from the Phase II testing program.

Phase II research also indicated that although the south test area, TC01 (South), was limited in extent by the presence of utilities and buried ramp foundations, subsurface testing was still possible there.

TC05: Two archaeological test units were recommended in this study block (Elia and Seasholes 1989: 335–39). The north unit was omitted from testing during the Phase II project because a geotechnical boring here showed the presence of contamination from volatile aromatic hydrocarbons and polynuclear aromatic hydrocarbons.

Utilities data for the south test area demonstrated that the site was surrounded by several important gas mains, a gas pressure regulation station, and water/sewer lines. These utilities created a potentially dangerous situation and it was not possible to shift the location of the test unit in this study block. It was therefore recommended that TC05 (South) also be omitted from testing.

FH05: A modification in the proposed alignment of this part of the Central Artery project area during the Phase II survey removed this study block, i.e., the Hook Lobster property on Atlantic Avenue, from any project impact. Accordingly, FH05 was omitted from the testing program.

SB12: In September 1988, the Office of Public Archaeology was directed by MDPW to remove study block SB12 from the Phase II testing program. MDPW had been informed by Conrail, the owner of the parcel, that there was a strong possibility of contamination of the site by PCBs.

The changes listed above left a total of six study blocks that remained to be tested during the Phase II investigation: MP01, NE03, TC01, TC02, SC02, and SB10.

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Report Format

The Phase II report is presented in two volumes. Volume One contains the text and illustrations, and Volume Two consists of a complete descriptive catalog for all artifacts recovered at the test sites. In Volume One, following the introduction (Chapter 1) is a discussion of the Phase II methodology (Chapter 2). The next six chapters describe the results of archaeological testing in the six study blocks where Phase II testing was conducted. Finally, Chapter 9 presents a summary of the Phase II study and its recommendations.

The individual chapters that present the archaeological testing at the six study blocks are subdivided into several sections. First, summaries of the location, targeted archaeological resources, and historical background are presented for the entire study block. The results of testing are then presented for each test trench excavated. Four study blocks (TC01, TC02, SC02, and SB10) were tested with only single excavation trenches. At the other two study blocks, however, more than one excavation trench was excavated (two at MP01, five at NE03). For each excavation trench, the discussion is presented in sections treating the following topics: location, historical background, excavation procedures, results of testing, discussion, and recommendation.

Chapter 2

Methodology

The general methodology for the Phase II archaeological survey is described in the Phase I report (Elia and Seasholes 1989: 320–25). This chapter discusses the specific implementation of that methodology during the Phase II project. The discussion below describes the following components of the Phase II survey: historical research, ground-penetrating radar survey, testing methods, and laboratory procedures.

Historical Research

The historical research for the Phase II investigations was carried out in various phases. Before fieldwork began, additional background research was conducted on all the Phase II sites. The objective of this research was to delineate, for all the historical lots in each site, the past owners, their occupations, the buildings thereon, and any other evidence of past land use. This research was based primarily on deeds, especially the summaries in a 19th-century conveyancer's records, and atlas maps. In addition, before going into the field, a packet of historical maps was prepared for each site; these packets included the entire series of atlas maps beginning with the 1867 Sanborn and often included other historical maps as well.

During the Phase II archaeological testing, the project historian made frequent site visits. The purpose of these was to consult on the location of the test trenches and to help identify the features that were exposed during testing. The historian also worked closely with the site interpreter, providing information for both the public and the press.

After the conclusion of the fieldwork, additional historical research was conducted on some of the sites, particularly those to be recommended for Phase III excavation. Specifically, research focused on the wharf-like feature in block NE03 Trench A, the well and wall features in the southern part of NE03 Trench B, and a more detailed land use history of the "Storage" and "open" lots in NE03 Trench C. In addition, some research was also conducted on the "Wagon Ho." lot in NE03 Trench C and on both Long and Central wharves (TC01 and TC02). This phase of the research was based primarily on deeds and, in the case of Long Wharf, proprietors' records, and was intended to obtain more information to support the Phase III recommendations.

Ground-penetrating Radar Survey

As part of the Phase II archaeological survey, a limited ground-penetrating radar survey was conducted in portions of MP01, NE03, TC01, and TC02. The purpose of the radar survey was: 1) to assist in locating targeted archaeological resources; 2) to identify the locations of unrecorded underground utilities; and 3) to test for the presence and absence of basements in buildings (Elia and Seasholes 1989: 321–22). Because ground-penetrating radar has rarely been employed in urban archaeological sites, the radar survey was viewed as an experimental program.

The radar survey was conducted using the Subsurface Interference Radar (SIR) System 3, manufactured by Geophysical Survey Systems, Inc. and owned by Boston University's Center for Remote Sensing.

A preliminary analysis of the radar profiles showed that few, if any, clear signals that could be related to subsurface features were recorded. In particular, at several of the test sites (MP01, NE03) data were available on the locations of large water and sewer pipelines within the areas surveyed by the radar. The radar, however, failed to record these utilities with distinct signals when the radar sled passed over the pipelines. Thus, the usefulness of the device to detect undocumented utilities was considered unreliable.

The radar profiles also failed to record distinct anomalies for various subsurface cultural features such as walls and basements. In most cases, owing no doubt to the overall complexity and disturbance of urban stratigraphy, the radar profiles revealed a confusing mixture of signals with very few distinct echoes. Because of the difficulties in relating the radar profiles to specific subsurface features, it was decided not to rely on the results of the radar survey for the selection of specific archaeological test pits.

Although the preliminary analysis of the radar was disappointing, and the basic goals of the radar survey were not achieved, additional studies of the radar profiles can be made now that the Phase II testing has been completed, and it will be possible to compare, albeit in hindsight, the radar profiles with the actual excavated remains. Thus, it is still possible that the radar may be judged to be a useful tool in urban archaeology.

Testing Methods

The Phase II testing methodology is described in the Phase I report (Elia and Seasholes 1989: 320–25). The primary concern guiding the selection of a testing strategy for the Phase II study was the consideration that, in a combined Phase I/II testing program, the targeted archaeological resources had to be both identified and evaluated at the same time. This requirement led to the selection of test trenches that were larger than the traditional backhoe units excavated at the Phase I/II level in previous projects (Elia and Seasholes 1989: 323-24). In addition, it was imperative that a flexible testing program involving both machine-assisted and manual excavation be employed.

Additional details on the implementation of the testing methodology in the field are presented below.

Provenience Control

The provenience control system was designed with several major goals in mind. Of primary importance was the need to be able to maintain vertical and horizontal controls at each site during the testing. It was recognized at the outset that, given the complexity of testing the urban archaeological record with a combination of manual and machine-assisted excavations, a flexible and accurate system of provenience control was imperative.

Site Names. The site designations for the test sites used the nomenclature developed during the Phase I study, which assigned a two-letter, two-digit designation to each study block. The two letters refer to the general study area, and the two digits refer to numbered study blocks within each study area. Thus, for example, the designation NE03 refers to the third study block in the North End study area.

Test Trenches. At two of the study blocks recommended for testing (MP01 and NE03), more than one test trench was excavated. In these cases each test trench was designated with an upper case letter (A, B, etc.). At MP01, two test trenches were excavated, MP01A and MP01B. At NE03, five test trenches were excavated (NE03A–E).

Horizontal Control. With the exception of the Town Cove blocks (TC01 and TC02), each test trench was subdivided into 10 x 10 ft grid squares, which were labelled with lower case letters. Thus, for example, MP01A was subdivided into grids a–h. In the Town Cove blocks the standard grid size was 8 x 8 ft. The grid squares were used to maintain horizontal controls within the larger test trenches. The locations of features, deposits, strata, artifacts, and excavation units were recorded by grid square.

Vertical Control. Elevations on the site were recorded by transit and dumpy level. All elevations were taken with reference to control points established on the site which were, in turn, tied in to existing Central Artery survey points. Site elevations were measured in feet and tenths in order to coincide with the existing survey measurements. All elevations shown on the figures are based on the 1929 United States Coastal and Geodetic Survey mean sea level datum used by the Massachusetts Department of Public Works.

Contextual Control. An important component of the provenience control system during the fieldwork was the "contextual unit," abbreviated to "CU." Rather than impose on-the-spot interpretations in the field by designating excavated contexts with such terms as "layer," "feature," "builder's trench," "well," "cistern," etc., it was decided to number every natural and cultural context within each test trench with consecutive CU numbers. Thus, CU numbers were given to soil layers, walls, features, etc. This allowed the efficient recording of the stratigraphic complexities of the urban archaeological record without imposing possibly erroneous designations on various contexts. The use of the "CU" system proved highly successful in the field and greatly simplified the recording process. A master list of CU numbers and descriptions was maintained by the assistant archaeologist during the testing.

As a result of this system, artifact labels (or any other full provenience designation) look like the following example.

grid square
↓
MP01A/d21 ← contextual unit number
↑ ↑
site trench

Organization of Phase II Personnel

The overall project team for the Phase II archaeological investigation is shown in Table 2.1. The field team consisted of the principal investigator, project archaeologist, assistant archaeologist, project expeditor (to manage the machinery subcontractor), site interpreter, and four field crew. A smaller field team was often employed during the set-up or closing of a test site. The project expeditor and site interpreter proved to be extremely valuable positions during the fieldwork, taking on many responsibilities that would have normally fallen to the principal investigator or project archaeologist.

Excavation Procedures

The fieldwork at each site generally began with the erection of a 6-foot chain link fence, laying out the test trenches and individual grid squares, and the removal of the surface asphalt, where present (Figs. 2.1 and 2.2). At each site the fence enclosed the excavation trench and sufficient area for work space, backdirt piles, machinery, and equipment. The machinery subcontractor, East Coast Equipment of Dorchester, Massachusetts, generally employed a backhoe (series 580 or 680), jackhammers and compressor, dump truck, tool truck, and three to five workers (including backhoe operator, foreman, and laborers) on the site each day.

Once the surface of the test trench had been exposed, the actual excavation process could begin. This most often commenced with blading off the bedding layers for the asphalt surface (Fig. 2.3). After this was accomplished, the stop-and-go process of monitoring the backhoe as it tested the site took place. This activity involved watching the excavation as it progressed to detect soil changes or archaeological features; the backhoe was frequently stopped so that the field crew could sample the soil matrix being exposed, either by visual inspection or by exploratory testing. The backhoe was also used in select areas of some of the trenches to excavate deep tests in order to examine the stratigraphy and the subsurface profile. The areas where this type of excavation was done are identified on the plan views of the trenches and referred to as Deep Tests.

Once a feature or deposit of interest was uncovered, backhoe excavation ceased and more controlled excavation techniques were employed. This generally involved the exposure of features by shoveling or shovel shaving. Target deposits and features were excavated with shovels and trowels. In a number of instances smaller sub-units were established in a trench and excavated manually. These are referred to as Manual Units or "MU"s, and are identified on the plan views of the trenches. The MUs were often 3 x 3 ft in size, but a variety of other sizes were used to investigate and delineate specific features or deposits. Traditional methods of controlled excavation and artifact recovery were employed in the MUs. Measured plan and profile drawings, photographic documentation, and site elevations were all recorded. Recovered artifacts and samples were placed in labeled bags with acid-free tags attached; these were collected in storage trays and transported to the laboratory at the end of each day for processing and analysis.

Site safety was an important concern at all times during the fieldwork. The fenced area was kept closed in order to limit access to the site, which was maintained as a hard hat area. OSHA guidelines were adhered to during the excavation of test trenches. Deep trenches were not entered by field personnel unless they had been rendered safe through the use of stepped side walls or, in the case of TC01 and TC02, by the use of wooden shoring within the excavation unit. Shoring consisted of cross-braced vertical tongue and groove planking.

When archaeological testing was completed, the trench was backfilled and the site restored (Fig. 2.4). Further details of the excavation procedures for each test site are described below in the individual site reports.

Laboratory Procedures

The laboratory system for the project was designed to provide basic processing procedures for artifacts and samples recovered from the archaeological excavations. Artifacts were brought to the laboratory in pre-numbered plastic "zip-loc" bags. These numbered bags were checked off on an artifact bag tracking sheet which allowed each bag to be monitored as it passed through the processing procedures from the time it entered the laboratory until it was ready for storage. Once the bags were checked in, the artifacts were removed and sorted. Materials requiring immediate conservation were removed, stabilized, and then directed to the project conservator. The remaining artifacts were grouped according to material type (ceramics, stone, metal, glass, etc.) and prepared for washing or dry brushing. After cleaning, the artifacts were placed on labeled screens in racks and allowed to dry naturally.

After drying, the artifacts were cataloged and then rebagged according to material type and provenience. All ceramics, glass bottle bases and bottle necks were labelled separately. Other materials such as bone, shell, brick, mortar, window glass, etc., were bagged collectively and cataloged as a single group. Small finds, such as jewelry and gun parts, were labeled with jeweler's tags and placed in appropriate containers. Catalog numbers were then assigned to individual artifacts as well as to the larger collections of brick, mortar, bone, shell, and window glass. After the artifacts were identified, they were described in detail and given manufacture dates where applicable. This information was recorded on the bags. The material was then placed in larger plastic bags, sealed, and moved to the computer area where the catalog information could be entered directly onto the computer.

The data base management system employed for the Central Artery laboratory processing is the Filemaker II data base software developed by Claris Corporation and run on Macintosh SE computer. For each artifact within an excavation trench, the catalog recorded grid, contextual unit, quantity, class, material, style/form, decoration, object type, part, and beginning/end manufacture dates. A complete copy of the artifact catalog to date is included as Volume II of this report.

After the artifacts were cataloged on the computer, they were removed from the computer area and prepared for temporary storage. Acid-free Hollinger boxes were labeled with study block, trench, and other appropriate provenience information, including the artifact bag numbers contained in each box. The boxes were then placed in a climate-controlled environment. Silica-gel and humidity strips were placed inside each box in order to monitor the amount of moisture present. The humidity strips are checked weekly to ensure that all artifacts are being stored in a stable environment.

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Chapter 3

Study Block MP01

ENTIRE BLOCK

Location

Study block MP01 is bounded by Causeway Street, a Central Artery off-ramp, Traverse Street, and a Central Artery on-ramp; historically, it was the block bounded by Causeway, Beverly, Traverse, and Haverhill streets (Fig. 3.1). Today, the north end of the block, the location of the test units, is a paved parking lot under the Central Artery (Fig. 3.2).

Targeted Resources

As described in the Phase I report (Elia and Seasholes 1989:122–23, 303, 307, 319, 320, 325–28), the targeted archaeological resources in MP01 were 1) landfill from the Early Republic period (1775–1830), specifically the Mill Pond fill (ca. 1808–1818); and 2) commercial remains from the Early Industrial period (1830–1870). These resources are examples of two categories of expected archaeological resources specified in the Phase I research design: landfill sites and manufacturing/industrial sites (Elia and Seasholes 1989:29–31).

Historical Background

Study block MP01 is in the Mill Pond study area, a section of Boston that was originally a large marshy cove bounded by the North End on the east and the West End on the west (Fig. 1.1). In 1643 the cove was granted to a group of proprietors on condition that they erect at least one grist mill. The proprietors accordingly dammed the cove, which became known as the Mill Pond, and built a tidal mill at the point where the Mill Creek (the present Blackstone Street) flowed into the Mill Pond—near what is now the Haymarket parking garage. The dam across the Mill Pond incorporated a natural causeway on the site of the present Causeway Street. During the remainder of the Plantation and Colonial periods the Mill Pond was the location of several industries: a 1769 map shows three mills, three distilleries, and a shipyard along the shore of the Mill Pond (Fig. 3.3).

At the beginning of the 19th century, the Mill Pond proprietors were reincorporated in order to fill the Mill Pond. Filling began in 1808 and, in keeping with the 20-year limit specified in the agreement, was essentially completed by 1828; the fill itself came from Beacon Hill. The area was laid out in a triangular street plan designed by Charles Bulfinch and is thus known as the Bulfinch Triangle (Fig. 3.3); an extension of the Middlesex Canal ran down the center of the triangle (Fig. 3.3). After filling was completed, the land was gridded off into lots and sold.

Although the made land in the Mill Pond was apparently originally intended for residential development, most of the area soon became commercial. This trend was hastened by the coming of the Boston and Maine Railroad in 1845; the tracks ran down the center of the triangle and the depot was located in Haymarket Square. By the middle of the 19th century, four- and five-story brick buildings had been erected and were occupied by small manufacturers, many associated with the furniture industry, and by the third quarter of the century the Mill Pond area was also the location of many marble works. In the late 19th century, many of the mid-century structures were replaced by five- and six-story panel brick buildings and the area became predominantly one of furniture manufacturing. Many of these buildings are still standing and the Bulfinch Triangle remains a commercial district and the location of many furniture stores.

MP01 TRENCH A

Location and Targeted Resources

Trench A was located in the north part of MP01 in an historic lot at the corner of Causeway and Beverly streets (Figs. 3.1 and 3.2). This lot was one of the few in the Mill Pond that did not have a building with a basement and therefore seemed a likely place to test for Mill Pond fill and 19th-century commercial remains.

Historical Background

The lot in which Trench A was located was at the north end of the Mill Pond and, because historical maps indicate that filling proceeded from south to north, was therefore probably not filled until the late 1820s. In 1829 it was owned by a Sarah Payne (Bowditch 7:38), who lived on Beacon Street and apparently speculated in Mill Pond real estate. When she died in 1833, her estate included 12 lots in the former Mill Pond, most of which were valued at $900; this lot on the corner of Causeway and Beverly streets, however, was valued at $1281.25, probably because it was a corner lot and not because it contained any buildings, for there are no indications of the latter.

By 1852, however, the lot did contain an L-shaped building on the corner and another structure along the west lot line (Fig. 3.4); the east part of Trench A was over the corner building while the west part was over the open space between the two structures. By 1867 another two-story building had been added along Beverly Street, leaving a narrow open space, under the west part of Trench A, surrounded by all four of the buildings on the lot (Fig. 3.4). The 1874 atlas indicates that the structures on Causeway and Beverly streets were of brick while the one along the west lot line was of wood, probably a barn, and that the space between the buildings was still open (Fig. 3.4). By 1885, however, the buildings had been extended to cover the entire lot except for the narrow triangular strip along Beverly Street; the east end of Trench A was over the backs of the stores that fronted on Causeway Street while the west end covered the site of a one-and-a-half story building on the west side of the lot (Fig. 3.4). A very similar configuration obtained in 1895: at that date the store on the corner was a restaurant and the one immediately west was labeled "bottles" (Fig. 3.5). By 1909 the configuration of the buildings on the lot had changed again: the western building formerly on Causeway Street had been replaced by two stores, and a stable with horses for sale had been built across the southern end of the lot; the west end of Trench A was over the backs of these two new stores (Fig. 3.5). This arrangement of buildings on the lot apparently continued until sometime between 1948 and 1951; by the latter date the configuration of the party wall between the stores on Causeway Street had been changed (Fig. 3.5). All the buildings on the lot were demolished in the 1950s for the construction of the Central Artery.

In sum, Trench A was located in a part of the former Mill Pond near the former causeway. The Mill Pond was filled between 1808 and 1828 with excavate obtained from Beacon Hill; since the filling generally proceeded from south to north, the section containing Trench A was probably filled in the 1820s. In any case, the lot in which Trench A is located had been laid out and sold by 1829. Two buildings had been built on it by 1852, and by 1867 the lot was almost entirely covered by structures except for a narrow open rectangle in the middle. The pre-1852 brick building at the corner of Causeway and Beverly streets was divided into two long narrow stores fronting on Causeway; these may have contained residences on the second floor but the use of the lot was always predominantly commercial. By 1885 the open space in the middle had been eliminated and by 1909 the western lot on Causeway Street had also been divided into two narrow stores facing the street. These stores had various uses;in 1895, for example, the store on the corner of Causeway and Beverly streets was a restaurant and the building next to it was used for bottle storage. These four narrow stores on Causeway Street remained until about 1951 when they were combined into two wider ones; they were all demolished in the mid 1950s for the construction of the Central Artery.

Excavation Procedures

Trench A was an excavation unit measuring 40 x 20 feet located in an active parking lot on Causeway Street. Eight 10 x 10 ft grid squares were laid out (a–h); some excavation took place in every grid square except g (Fig. 3.6). Excavation of Trench A involved a combination of backhoe and manual techniques. The backhoe removed the sand bedding below the asphalt and was also employed in the excavation of deep tests to investigate the subsurface profile. Manual excavation was employed to sample deposits exposed by the backhoe, to expose and sample the various 19th-century architectural features on the site, and to provide a controlled sample of Mill Pond fill deposits.

Results of Testing

Excavation began in grid squares a, b, and e (Figs. 3.6 and 3.7). Testing in this area showed substantial disturbances from modern utilities and grading. CU 1 was the asphalt surface of the parking lot. CU 2 was a sterile sand layer that formed the bedding for the asphalt. CU 3 was a disturbed stratum of mottled grayish brown and olive sand and gravel. Along the north edge of grid square a, a concrete slab (CU 4) was encountered (Fig. 3.7); this feature was 5 inches thick and extended 1.75 feet into the trench. Subsequent excavation exposed this feature throughout the length of squares a–d; it is certainly modern and probably serves to cap a utility line of some type.

In grids a–b, a thick, sterile deposit of sand (CU 5) was found to run diagonally across both squares (Fig. 3.7). This thick sand filled in a sloping cut that marked the location of a utility trench for a deep sewer pipe. The route of the utility line had been noted prior to the excavation from manhole covers that were on the surface of the parking lot. Grid square g was omitted from testing in Trench A because it was intersected by this utility.

A backhoe trench (Deep Test 1) was excavated in grids a/e in order to investigate the deposits of Mill Pond fill in the trench (Figs. 3.7 and 3.8). Below CU 3 and CU 5 (utility trench fill) were a series of fill layers, extending to below the water table. These strata, presumably of Mill Pond fill, were labelled (in order of top to bottom) CU 6, 7, 11–15. Together, they measured ca. 7 feet in depth; at the bottom of the backhoe trench was a deposit of blue clay with the water table at ca. 10.5 ft below the ground surface. These strata were excavated with the backhoe; wheelbarrow loads of each stratum were screened for artifacts. Artifact summaries for CU 6, 7, 11–15 are presented in Table 3.1.

CU 6 was a dark gray-brown sandy layer (ca. 0.5 ft thick), containing a few ceramics and glass fragments (including 1 creamware, 1 Staffordshire stoneware, 1 slipware; Fig. 3.8). Below CU 6 was a stratum of compact olive and brown coarse sand (CU 7). This layer was ca. 2 ft thick; diagnostic ceramics recovered from CU 7 include creamware, pearlware, whiteware, and Albany slip stoneware. Underlying CU 7 was a ca. 2 ft thick stratum of dark grayish brown sand and rubble, CU 11. CU 11 contained a similar range of ceramic types as CU 6 and 7. Below CU 11 was CU 12, a thin (ca. 0.4 ft thick) layer of olive brown compact clay and sand; a single sherd of whiteware was recovered from this stratum. CU 12 was underlain by CU 13, by contrast an artifact-rich stratum of very dark gray organic coarse sand. CU 13 contained numerous ceramic sherds, as well as glass, bone, metal, and leather. Creamware, pearlware, and whiteware predominated among the diagnostic ceramics; numerous redware sherds were also recovered. The deepest level exposed in Deep Test 1 was CU 15, a blue marine clay. A single bone was recovered from this stratum, which reached a depth of ca. 10.5 ft below ground level.

A plausible interpretation of the stratigraphy described above is that CU 6, 7, 11–13 represent episodes of Mill Pond filling. Although the recovered sample from some of these levels is not extensive, the datable artifacts all cluster comfortably within the period during which the Mill Pond is known to have been systematically filled (i.e., 1808–1828). The artifact-rich dark organic layer CU 13 is of considerable interest, as it lies directly above the blue clay stratum that is probably the bed of the Mill Pond. A reasonable conjecture for the origin of CU 13 is that it represents the bottom organic sediments of the Mill Pond before it was filled. It should be noted, however, that the artifactual assemblage from CU 13 contains no material of demonstrably earlier date than 1808–1828; it may be, then, that CU 13 simply represents the earliest episode of filling on the mucky organic floor of the Mill Pond.

Excavations in grid squares b-d and h revealed modest remains of a 19th-century structure on top of the Mill Pond fill (Fig. 3.7). In particular, parts of two narrow wall foundations were uncovered in grids b/c and d/h. These features, labelled CU 8/17 in grid b/c and CU 24 in grid d/h, consisted of small granite and marble stones aligned in an east-west orientation. The walls measured ca. 1.3 ft in thickness and were ca. 18 ft apart. The west wall (CU 24) exhibited a ca. 3 ft wide break, which may have marked the location of a window; two iron window weights were recovered from this area (Figs. 3.9 and 3.10). To the west of CU 24 (ca. 1.5 ft), two patches of linoleum were discovered; these may indicate either a floor level or a destruction level of this building. Excavation at the bottom level of the west wall (CU 24) also revealed the presence of a wood timber, located ca. 1.3 feet west of the foundation (Fig. 3.7). The wood may have been laid down as part of the construction of the foundation.

Both wall features CU 24 and CU 8/17 were located within CU 9/18/19, a very dark brown organic sand (Fig. 3.7). This stratum contained abundant cultural remains, including ceramics, glass, metal, bone, shell, wood, and other artifacts (Table 3.1). The ceramics in this deposit included a large amount of pearlware and whiteware; in fact, the entire ceramic assemblage was very similar to those recovered from the Mill Pond fill deposits in grid squares a/e, except that it also included a mixture of obviously later materials that must derive from the occupation and use of the building represented by the foundation walls CU 24 and CU 8/17. For example, included in this largely early 19th-century assemblage were a number of artifacts such as late 19th- and early 20th-century whiskey bottles, linoleum, and an Indian head nickel (1913–1938). Considering the nature of the strata underlying CU 9/18/19, it is reasonable to conclude that this stratum also represents a deposit of Mill Pond fill, consisting largely of domestic rubbish, mixed with materials dating from the building that was erected on top of it. A somewhat surprising feature of this fill, and one that points to its likely origin as domestic rubbish brought to the site as fill, is the presence, in small quantities, of artifacts that clearly antedate the documented period of the filling of the Mill Pond (1808–1828). These include 3 sherds of Westerwald stoneware and a single sherd of white salt glazed stoneware.

The remainder of the testing in Trench A involved the sampling of Mill Pond fill deposits west of, and below the level of the 19th-century architectural remains in grids d/h (Fig. 3.10). Five additional strata of Mill Pond fill were identified and sampled below CU 9/18/19: CU 20/21, 27, 28, 29, and 31 (Fig. 3.11). These strata were difficult to distinguish in the field; they were identified as separate strata primarily on the basis of their color, generally some shade of dark gray and olive sand and clay. CU 31, the deepest stratum tested in e/h, was a blue clay containing brick fragments and some wood. The water table was encountered at ca. 6.7 ft below the ground surface and excavation did not proceed below CU 31.

The artifacts recovered from the Mill Pond fill deposits in grids d/h were largely uniform in terms of the types of materials represented and their dates (Table 3.1). All of the materials fit within the expected chronological range (i.e., first quarter of the 19th century) with a few exceptions. The strata also contained a wide variety of material classes: ceramics, glass, metal, bone, shell, wood, etc.; their density in the shallow levels excavated resemble the contents of features such as privies or other midden deposits, and it seems likely that they were originally rubbish deposits from domestic sources that were subsequently used as fill.

Discussion

The Phase II testing in Trench A demonstrated the presence of considerable disturbance from modern sources in grid sqares a, b, and g. Of the two resources targeted in the testing, one—evidence of 19th-century Mill Pond development—exhibited little integrity, although a few traces of a 19th-century building were identified. The other targeted resource—Mill Pond fill—was sampled in Deep Test 1 in grids a/e through a backhoe-excavated trench and in grids e/h through systematic manual excavation.

The sequence of fill deposits from Trench A produced abundant artifactual and organic data. Analysis of these data indicates the likelihood that the source of the fill for this part of the Mill Pond, at least, was domestic rubbish. The diagnostic artifacts from the fill deposits date consistently to the period when the Mill Pond was systematically filled (1808–1828), although there are earlier artifacts present (which is not surprising if the fill is domestic rubbish brought in from elsewhere).

Additional excavation in Trench A would be severely restricted in area due to the presence of extensive disturbances, primarily utilities. The area available for excavation amounts to little more than that laid out for Trenches A and B. It is unlikely that any additional excavations in Trench A would produce significant cultural resources beyond what has already been recovered in the Phase II testing.

Recommendation

The archaeological resources tested in Trench A are not considered eligible for the National Register. No additional archaeological investigations are recommended for this test area.

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MP01 TRENCH B

Location and Targeted Resources

Trench B was apparently located over two historic lots: the northern part of the trench—grids e, f, b, and parts of g and c—was in the southern part of the lot at the corner of Beverly and Causeway streets (henceforth referred to as "the Causeway Street lot") whose history is traced in the discussion of Trench A above. The southern part of Trench B—parts of grids g and c—was in the eastern part of the next lot south on Beverly Street (henceforth "the Beverly Street lot") (Fig. 3.1). Trench B was intended to test Mill Pond fill and remains of the 19th-century commercial development of the block.

Historical Background

After this part of the Mill Pond was filled in the 1820s, it was gridded off and by 1829 the Beverly Street lot had been sold to a Mr. Busey. In 1852 there were no buildings at all on this lot and none on that part of the Causeway Street lot that is included in Trench B (Fig. 3.4), but by 1867 a stable had been built on the western side of the Beverly Street lot (the part under Trench B was still open, however) and a two-story building on the part of the Causeway Street lot that is under Trench B (Fig. 3.4). This same building configuration still obtained in 1874 when the Beverly Street lot was apparently being used as a marble yard (Fig. 3.4). By 1885 one-story buildings had been erected along the north and south sides of the former marble yard (the north building was under Trench B) and the two-story building formerly on the south part of the Causeway Street lot had been replaced by a one-story structure that was apparently used for storage (Fig 3.4). By 1895 an additional one-story structure had been built in the open area of the Beverly Street lot and all the buildings on this lot were apparently being used for "hardwood lumber;" the building on the Causeway Street lot had meanwhile been increased from one story to two (Fig. 3.5). By 1909 the most recent building on the Beverly Street lot had been extended to the east, reducing the open area still further; these buildings were still being used for lumber storage. The two-story building on the Causeway Street lot had been replaced by a sale stable (Fig. 3.5). By 1929 the buildings on the Beverly Street lot had apparently been removed, leaving the lot empty, and the former stable on the Causeway Street lot was being used for junk (Fig. 3.5). In 1951 the buildings, or lack of them, remained the same, although the one on the Causeway Street lot was no longer labeled "junk" (Fig. 3.5); in the mid-1950s all were demolished for the construction of the Central Artery.

To summarize, Trench B is located in the former Mill Pond, which, as described above, was originally a marshy cove that was filled between 1808 and 1828. Trench B is over two historic lots: the northern part of the trench was on the southern part of the lot formerly at the corner of Causeway and Beverly street (the "Causeway Street lot") and the southern part of the trench was on the eastern part of the former lot adjacent on Beverly Street (the "Beverly Street lot"). Both these lots had been laid out and sold by 1829 but neither of the parts covered by Trench B contained any buildings as late as 1852 (Fig. 3.4). The Causeway Street lot contained a two-story building by 1867, however, and this structure remained, apparently with modifications, until it was replaced by a stable between 1895 and 1909. This latter building had various commercial uses and finally was demolished in the 1950s for the construction of the Central Artery. The part of the Beverly Street lot that is covered by Trench B remained open much longer: in 1874 it was used as a marble yard and by 1885 a building had been built on the north part of the lot (the part included in Trench B). This structure was part of a lumber yard at the turn of the century and had various other commercial uses until it was taken down sometime between 1922 and 1928; the lot then remained open.

Excavation Procedures

The location of Trench B is shown in Figures 3.2 and 3.6. This trench was originally established as a 20 x 40 ft unit, divided into 10 x 10 ft squares labelled a–h. Squares a, d, and h were not excavated due to modifications made in the field. Heavy equipment was used to remove the surface asphalt and sand bedding of the remaining squares and once this was done, excavation proceeded with a combination of backhoe and manual excavation. In Trench B, manual excavation was concentrated on examining and elucidating 19th-century features related to the development of the parcel after it had been filled, while backhoe excavation was used more extensively to test the deep fill deposits.

Results of Testing

The work carried out in Trench B consisted of two major components, two deep tests through the stratified fill deposits, and manual work around a foundation wall (CU 5) and associated deposits (CU 6, 12, 13, 18) found in the southern half of squares c and g (Fig. 3.12). The uppermost stratigraphy of the trench was similar throughout. The asphalt (CU 1) had been laid down over two relatively thin layers of sterile sand bedding (CU 2, 3). Immediately below the lower level of sand was a recent (*terminus post quem* = 1927) demolition layer (CU 4) filled with rubble and debris probably relating to the activities that preceeded the construction of the Central Artery in the 1950s. This layer varied in thickness and was thinnest in the southern portion of the trench.

The first deep test of the fill was in squares e and f (Fig. 3.6). No *in situ* remains or features were found when the demolition layer (CU 4) was cleared, so excavation by backhoe continued into the fill deposits. A series of relatively thick fill layers was excavated. A mottled olive and brown compact sand (CU 7) level was found over a very dark grey clay and sand (CU 8) and an organic silty sand containing wood debris (CU 10). Beneath this was blue green and blue clay containing small brick fragments and other artifacts (CU 9, 11).

The second deep test of the fill deposits was in grid square b and the northern part of grid square c (Fig. 3.6). In this area a mortar and rubble filled layer (CU 14) was encountered about 2.5 ft below grade. This level was about 1.5 ft thick and overlay a black layer of slag, cinder, and brick rubble (CU 15). Immediately below this was a similar very coarse black layer of slag and cinders, but with fewer bricks (CU 16). This level in turn rested upon blue clay (CU 17), the top portion of which included some brick fragments. Excavation continued into the clay to approximately 12 ft below grade, at which point water began to run into the trench. In this deep test the results seemed rather similar to the first test of the fill sequence in squares e and f. Multiple fill layers were clearly present over the underlying clay, but they appeared to be distinctly industrial (as opposed to the clearly domestic refuse in the fill layers of Trench A) and were composed primarily of large quantites of slag, cinder, mortar, and other types of rubble. Only a small number of artifacts was recovered from these layers and those that could be dated all fit comfortably into the historically documented fill period of 1808–1828.

A series of *in situ* remains relating to the 19th- and 20th-century use of the parcel was uncovered in the southern portion of the trench in squares c and g, where remains of a wood and concrete foundation wall (CU 5) were found marking the boundary between the Causeway Street lot and the Beverly Street lot (Fig. 3.12). This wall extended roughly northeast-southwest and was approximately 4 ft north of the southern edge of squares c and g. The area north and west of this feature appeared to have been the interior of a building, and the area south and east seemed to have been an exterior yard, apparently for a marble works. Excavation in this area was conducted manually. An *in situ* layer of marble fragments (CU 18, 19) was exposed in part of the area southeast of the foundation feature (CU 5) (Fig. 3.13). This layer appears to have been a working surface, and was capped by two very distinct layers, both of which had numerous marble chips throughout them (Fig. 3.12). To the east, mostly in square c, was a coarse dark reddish sandy layer (CU 6). To the west, mostly in square g, the marble sheet scatter was capped by a mottled brownish yellow compact silt (CU 12). A 5 x 2 ft area was also manually excavated north of the foundation wall (CU 5) in square g to test what was thought to be the building interior (Fig. 3.12). The olive-grey mottled clay (CU 13) contained numerous artifacts and was excavated down to the top of the clay beneath it. The artifacts recovered were quite mixed and included everything from tin glazed wares and white saltglazed stonewares to auto parts. A section of the marble surface south of CU 5 was also removed to allow testing of the deposits below it. When this was done it quickly became apparent that the marble sheet refuse rested on a level (CU 20) that was virtually identical to the mixed fill level (CU 13) excavated to the north of the foundation feature (CU 5).

Discussion

Archaeological testing in Study Block MP01 was designed to test the Mill Pond fill and the remains of Early and Late Industrial Period (1830–1915) development of the block. The testing of the fill sequence in Trench B provided some useful information about landfill operations in the Early Republic Period (1775–1830), for, in contrast to Trench A, where domestic refuse seems to have been an important fill component, the fill layers in Trench B were apparently industrial refuse, primarily slag, cinder and rubble. Further work to test these deposits does not seem warranted as they are relatively free of artifacts and clearly seem to have been deposited during the documented filling period (1808–1828).

Excavation in Trench B also provided some information about the development and subsequent commercial use of the property during the Late Industrial Period (1870–1915). The marble refuse found undoubtedly relates to the marble yard documented for the Beverly Street lot by 1874 (Fig. 3.4). No archaeological evidence was found for either the commercial development of the Causeway Street lot or later uses of the Beverly Street lot. The artifactual evidence recovered from that part of the marble yard not disturbed by the bents suggests that further archaeological testing of this yard is not warranted because, aside from the scattered marble refuse, no material offering additional insight into the marble works, such as tools or equipment, was recovered.

Recommendation

The archaeological resources tested in Trench B are not considered eligible for the National Register. No further archaeological work is recommended for this area.

Chapter 4

Study Block NE03

PROPERTY OF
THE BRA LIBRARY

ENTIRE BLOCK

Location

Study block NE03 is bounded by Cross Street, the reverse-direction lane of the surface road under the Artery, and Blackstone and North streets (Fig. 4.1). This "block" was only created in the 1950s when the Central Artery was built; it actually overlies three historic blocks that were obliterated during the construction of the Central Artery (Figs. 4.1 and 4.2). One of these blocks was formerly bounded by Cross, Endicott, and Salem streets (Block D in the Phase I report; Elia and Seasholes 1989:138, 140–41); one by Cross, Salem and Hanover streets (Block E in the Phase I report; Elia and Seasholes 1989:138); and one by Cross, Hanover, North Centre, and North streets (Block G in the Phase I report; Elia and Seasholes 1989:139–40) (Fig. 4.1). Today, NE03 is a paved parking lot under the Central Artery.

Targeted Resources

As described in the Phase I report (Elia and Seasholes 1989:138–40, 303, 308, 328–32), the targeted archaeological resources in NE03 include remains from the Prehistoric and Contact periods (12,000 B.P.–1620), residential remains from the Plantation through Early Republic periods (1620–1830), evidence of manufacturing from the Plantation through Early Republic periods (1620–1830), other commercial remains from the Plantation through Early Republic periods (1620–1830), and landfill and a seawall from the Early Republic period (1775–1830). These remains include several of the types of expected archaeological resources described in the research design (Elia and Seasholes 1989: 21–22): prehistoric sites, settlement and structures, landfill, and manufacturing and industrial sites.

Archaeological testing in NE03 was conducted at five locations, designated Trenches A–E. Each trench is described in detail after the historical overview for the entire study block, which follows below.

Historical Background

Study block NE03 is in the North End, a section of Boston that was part of the original Shawmut Peninsula (see Fig. 1.1). The original North End was actually a promontory that extended north between the Mill Pond and the Town Cove and was connected to the rest of Boston by a rather narrow neck; the southeastern part of block NE03 is located on this neck. The northwestern part of the block, however, was in the former Mill Pond and thus has quite a different history from the southeastern section (see Figs. 1.1 and 4.1).

Because it was part of the original landform, the North End may have been a locus of prehistoric activities. It certainly was one of the earliest areas settled in the historical period after the arrival of the first large influx of permanent European settlers in 1630. Settlement in mid-17th century Boston was concentrated around the Town Cove and along the main thoroughfares. Thus, the southeastern part of NE03, which was bounded by North Street—the original shoreline—and intersected by Hanover Street—the main route to the North End—was densely settled earlier than the northwestern part of the block, which backed onto the Mill Pond. By the early 18th century, however, almost all of NE03 then on land, that is, all except the part in the Mill Pond, had been built up (Fig. 4.3).

This 17th-and 18th-century settlement was mixed residential and commercial, as was typical of the period. Houses were originally of wood but, due to a series of devastating fires, were increasingly built of brick, especially after 1711 when required by the town. Many houses, particularly in the 18th century, had a shop on the street level and a residence on the upper floors (Bridenbaugh 1938, 1955). Deeds make it clear that most houselots included gardens and that wells were often shared by adjoining houselots (see, for example, Suffolk Deeds 19: 65, 57: 210, hereafter S. D.) . Socio-economically, the North End was heterogeneous, as was again typical of 18th century American cities: many mariners (sailors) and laborers lived there, but the section also included shopkeepers and craftsmen, particularly those in maritime trades, as well as members of the upper class, such as merchants and gentlemen.

In the 19th century the character of the North End changed. Wealthy residents moved to newer, more fashionable neighborhoods and the population of the North End became poorer and more transient. Many 18th-century houses were taken down and were replaced by brick tenements. These continued to have a mixed residential and commercial use: by the second half of the 19th century some buildings were completely commercial and many others had shops on the ground level and apartments or factories on the upper floors. After the middle of the century, these residences were occupied by members of the large immigrant groups that moved successively through the North End: the Irish, Jews, and, finally, the Italians (Woods 1903).

The north part of block NE03, the part formerly in the Mill Pond, also changed dramatically in the 19th century. The Mill Pond was filled between 1808 and 1828 (Fig. 4.3) and, since the filling proceeded from south to north, the part in which NE03 is located was probably filled in the 1810s. The newly-made land in the Mill Pond was apparently intended for residential development but many of the lots were purchased by speculators and buildings were not actually erected for many years. In the case of NE03, the brick tenements along Endicott and Cross streets were probably built in the 1830s. Although the northern part of the former Mill Pond between Haymarket Square and Causeway Street subsequently became a commercial and manufacturing area, the southern part remained predominantly residential throughout the 19th century and its brick tenements were occupied by the same succession of immigrant groups as were those in the rest of the North End. Some commercial development did occur in this part of the former Mill Pond, however; the historic block bounded by Cross, Endicott, and Salem streets that underlies the northern part of NE03 (see Fig. 4.1) had, for example, a large stable in the interior and a hotel at the northern end.

NE03 TRENCH A

Location

Trench A is in the northwestern part of block NE03 in the historic block bounded by Cross, Endicott, and Salem streets. The southeastern part of this block was on the original Shawmut Peninsula while the northwestern part was on land created by filling the former Mill Pond; Trench A was placed in order to intersect the original shoreline (see Figs. 1.1, 4.1 and 4.4).

Historical Background

Trench A is located in an historic lot that fronted on Salem (formerly Back) Street on the east and was bounded on the west by the Mill Pond (Fig. 4.5). In 1653 this lot, which at that time measured 66 feet on Back Street, was sold by Sampson Shore, a tailor, to William Waters, a planter, "together with one frame for a howse and all the stuff then lying upon the premises for ye setting up of ye said howse and finishing thereof" (S. D. 2:107; Clough n.d.); this house was presumably the first one built on the lot.

The next sale of this lot was recorded in 1693, although this record was actually a court judgment confirming a sale that apparently had been made in 1672 and for which the original deed had been lost. In any case, the lot was sold by Edward Rawson of Dorchester, a gentleman, to the Society for the Propagation of the Gospel to the Indians in New England and measured 75 feet 8 inches along Back Street, approximately 120 feet on the south boundary from Back Street to the Mill Pond, 71 feet 8 inches along the Mill Pond, and 95 feet on the north side from the Mill Pond to the street (see Fig. 4.5). The lot contained a house and apparently some other buildings, but there is no mention in the deed of a wharf (S.D. 16: 285), an omission that was significant because the next deed did mention a wharf on the property and thus implied that it had been built between the two dates.

By the time of the next transfer, however, which occurred in 1709 and was from the Society for the Propagation of the Gospel to John Eustis, a housewright, the property included not only a house but also "yards, backside garden and land and wharffe." The dimensions at this date were quite similar to those of 1693: 73 feet 5 1/2 inches along Back Street, 109 feet 3 1/4 inches on the south, 73 feet 1/2 inch along the Mill Pond, and 93 feet 1/2 inch on the north (S.D. 29: 200).

The wharf was apparently still in existence in 1723 when Eustis, by then described as a brazier, sold the lot to William Maycock, a laborer; the language of this deed is the same as that of 1709 as are the dimensions of the lot (S.D. 37: 171). The southern border, which had contained what the deeds describe as several "breaks and angles" (S.D. 29: 200), was straightened in 1724 by an exchange with that abutter (S.D. 38: 3), but Maycock continued to own the main part of the lot until his death in 1771. His will and inventory indicate that by that date the property had a mansion (i.e., dwelling) house; a range of stables and other buildings; various pieces of improved land on which firewood was laid; a yard, apparently near the passage (later Salem Place) leading in from the street, which contained a pump and garden; but no mention is made of a wharf (Suffolk Probate 70: 146, 207). The implication is thus that the wharf no longer existed in 1771.

The parcel was not sold again until 1783, when it was purchased by Josiah Vose of Boston, a gentleman. At that time the lot measured 69 feet on Back Street, ran 50 feet 8 inches on the abutter to the south before a jogging 17 1/2 feet south around this same abutter and then continued another 101 feet to the Mill Pond, went 66 feet along the Mill Pond, and then 138 feet on the north from the Mill Pond to the street (see Fig. 4.5). Vose still owned the property in 1798 and lived on it along with one Trask, presumably a tenant. In the Direct Tax the property is described as having "brick & wooden dwellings ... barn, wood house & chaise house." The wood [dwelling?] house was 198 square feet, had two stories, five windows, and was valued at $600; the brick dwelling was 1395 square feet, had two and three stories, 32 windows, and, with the 7000 square foot parcel, was valued at $3000 (Boston Record Commissioners 1890: 204).

Josiah Vose died in 1823; his inventory of that year described his estate on Back Street as having a "wooden house, brick house, sheds, etc.," thus indicating that the 18th century buildings were still standing at this time, and valued the property at $8000 (Suffolk Probate 121, part 2: 187). Vose apparently had many debts and by the time his estate was settled and his daughter Peggy Spurr sold the parcel in question to Elias Hasket Derby in 1831, one lot on Salem (formerly Back) Street had been sold and the Mill Pond had been filled and Pond (later Endicott) Street extended (see Figs. 4.3 and 4.5). At this time the bounds of the lot ran along on Pond Street 90 feet 6 inches, along a northern abutter 64 feet 8 inches, a jog south 16 feet 11 inches, along another northern abutter 16 feet and then 57 feet, another jog south 25 feet 6 inches, along another northern abutter 71 feet, south on Salem Street 45 feet 7 1/2 inches, along a lot formerly part of Vose's estate 76 feet, a jog along this same lot 32 feet, along Jeremiah Bulfinch's land 75 feet 11 inches, and then a jog south 8 feet 9 inches to the point of the beginning of Pond Street (see Fig. 4.5). The sale included "all the stables and other buildings thereon, the said lot embracing the whole establishment now improved by Reuben Davis for a livery stable, and yard and the brick building and part of the old mansion on Salem Street" (S.D. 35: 73). Thus, as this deed makes very clear, the stable that occupied this parcel throughout most of the 19th and early 20th centuries was built sometime between 1823 and 1831.

Five years later, in 1836, Derby sold the parcel to Jotham Glazier, an innkeeper. By that time all the lots along Salem Street had been sold off and the remaining property of 10,612 square feet included the part along Endicott Street and the interior portion that had once backed onto the Mill Pond (see Fig. 4.5). The 1836 deed also stated that the property was subject to a lease by Reuben Davis for five years starting October 1, 1831, and a mortgage of 1836 referred to the "extensive stables" on the land (S.D. 404: 73)—both clear indications of the use to which the land was being put. Also about 1836 the southern part of the stable lot was set off to create the lots along Endicott Street, and the brick buildings on these lots were erected (see Fig. 4.5).

From the early 1830s until 1923 this parcel remained a stable, as can be seen on the atlas maps that span this period (Figs. 4.6 and 4.7). In 1923 the stable was replaced by a five-story garage with brick walls and concrete floor and roof but no basement (Fig. 4.7), which remained standing until the mid-1950s when it was demolished for the construction of the Central Artery.

To summarize, Trench A is on a large historic lot that once fronted on Salem Street and backed onto the Mill Pond. This lot contained a house as early as the 1650s, but this residence was undoubtedly near Salem Street, and it is not clear how the back part of the lot, in which Trench A is located, was used during the 17th century. The first clear reference to land use in this area is a 1709 deed that cites a wharf on the property. The wharf was still in existence in 1723 but apparently was not in 1771. In the late 18th and 19th centuries, the lot was an estate that contained numerous outbuildings, but where these were located in relation to Trench A is not clear. Between 1808 and 1828 the Mill Pond immediately west of the historic lot was filled and by 1831 the lots along Salem Street had been sold separately and an extensive stable had been built over much of the remaining back lot. Around 1836 part of the former lot was set off to form new house lots along Endicott Street and brick buildings were erected on these lots. The stable remained on the rest of the historic back lot until it was replaced by a concrete garage in 1923.

The land use history of Trench A thus indicates that during most of the 17th century the large lot of which it was a part was owned by members of the upper class, e.g., a planter and a gentleman. The back part of this lot, where Trench A was located, was near the shore of the Mill Pond, so the activities in this area would presumably have been related to the use of this body of water; in fact sometime between 1693 and 1709 a wharf was built out from this area into the Mill Pond. In the early 18th century the entire parcel was owned first by a craftsman and then by a laborer. Because this parcel was on the fringes of the North End it was not divided up as were more centrally located parcels and, by the time of the former laborer's death in 1771, it had become an estate with numerous outbuildings. Some of these outbuildings were located on the back part of the lot in the vicinity of Trench A, although the wharf apparently no longer existed in 1771, perhaps because it had been filled. In 1783 the estate was sold to a gentleman, and by the time of his death in 1823 the Mill Pond had been filled. His heirs divided the parcel and sometime between 1823 and 1837 a stable was built on the lot containing Trench A. For the next hundred years the activities in the area of Trench A were associated with the stable except for the southern part of the lot where brick tenements were erected after 1836.

Excavation Procedures

The location of Trench A is shown in Figures 4.8 and 4.9. An excavation unit measuring 50 x 30 feet was laid out, consisting of fifteen 10 x 10 foot squares, which were labeled a–o. Eight of these grid squares (b, f–i, l–m), totaling 800 sq ft, were excavated by a combination of backhoe and manual techniques. After the removal of the asphalt (CU 1) in the eight grid squares listed above, the front-end loader of the backhoe scraped off the underlying sand bedding (CU 2). An exploratory deep backhoe trench was excavated in grids f–i; this trench exposed a series of foundations, a cobblestone surface, deposits of Mill Pond fill, and a portion of a wooden dock or wharf feature. Subsequent excavations in Trench A were conducted primarily by manual techniques with some assistance from the backhoe. In addition to shovel shaving, exposure of foundations, and sampling of deposits and features by trowel and shovel, five manual excavation units (MU 1–5) were also excavated in Trench A.

Results of Testing

Archaeological testing in Trench A revealed a complex series of foundations, features, and deposits dating from perhaps as early as the late 17th century to the 20th century (Fig. 4.10). In grids g and f, a northwest–southeast stone and brick foundation (CU 4) was discovered ca. 1 ft below the surface of the parking lot. This foundation, which was exposed for a length of ca. 16 ft, measured 1–1.5 ft wide and terminated against another wall running northeast–southwest (CU 27). The ceramic assemblage from the probable builder's trench (CU 6) for the northwest–southeast wall (CU 4), as well as the ceramics from the soil excavated in grid b (west of CU 4 and south of CU 27), contained a mixture of artifacts of different periods. Creamware and pearlware predominated, although some earlier tin glazed wares were also present, as was a single sherd of whiteware. Judging from the cartographic evidence, enhanced by the digitizing, CU 4 and CU 27 probably represent the east and north walls, respectively, of the back ell of a brick building that faced the former Endicott Street, which was located west of Trench A. This building probably dates to the 1830s or 1840s; at any rate, it is shown on the Slatter and Callan map of 1852. The main building on this lot contained a basement, although its back ell apparently did not.

North of CU 27, in grid h, excavation revealed the back wall of a brick building (see Fig. 4.10). This wall, labeled CU 20, was exposed for a length of ca. 7.5 ft and was preserved over 6 ft high. It apparently belonged to the back of the brick structure that adjoined the building in grids b and g on the north side. Only the east edge of this wall could be exposed during the testing. It apparently joined CU 27 in grid b, although the wall itself is not exactly on line with the northwest–southeast wall CU 4. Instead, CU 20 runs slightly in a northerly direction. This slight angling of the wall to the north is evident on the Sanborn maps of this building lot (see Fig. 4.6).

In the center of grids f and g, testing exposed the substantial remains of a foundation of large granite blocks (see Fig. 4.10). This foundation, labeled CU 5, ran in a northwest–southeast direction, directly adjacent to CU 4, and parallel with it. It measured 2.5 ft wide and was exposed for a length of 19 feet. The surviving foundation was at least two courses in height. It should be noted that on its northwest end, the foundation terminated on the same line as CU 27, the northeast–southwest wall of the building that faced Endicott Street; this alignment suggests that CU 5 shared a lot line with the building that was partially uncovered in grid b.

The substantial nature of the granite foundation, as well as its location directly adjacent to CU 4, suggests that it is probably associated with the five-story garage that was built on this lot in 1923; this building succeeded the large stable that appears on a series of Sanborn maps (see Figs. 4.6 and 4.7). Another feature that may be related to the same period as CU 5 is a square concrete pier or footing (CU 24) that was uncovered in grid m/n (Fig. 4.10). This feature measured 2.5 ft square and was also preserved in two courses; the elevation of its top surface is at about the same level as the upper surface of CU 5.

The backhoe trench excavated through grids f–i also exposed a cobblestone surface (CU 9) in grids i and m (see Fig. 4.10). Based on the area exposed by excavation in Manual Units 2–5, the cobblestone surface extended 11 ft east–west and 9 ft north–south. The western extent of the surface could not be determined; the eastern extent of the cobblestones was apparently cut into by construction activity for the building (probably the 20th-century garage) of which CU 24 was a part. Two thin cultural strata were located immediately above the cobblestone surface (Fig. 4.11). The uppermost of these, CU 11, contained a variety of diagnostic ceramic types, ranging from tin glazed and Westerwald (in very small quantities) to a large amount of creamware, whiteware, and pearlware (Table 4.1). Underlying CU 11 and directly above the cobblestone layer was CU 14, which contained a small number of 18th-century ceramics (tin glazed, slipware, Westerwald), and large amounts of creamware, pearlware, and whiteware.

Directly below the cobblestones (CU 9) was a thin (ca. 0.5 ft) layer of soil (CU 12/17), which may have been laid as a bedding for the cobbles (Fig. 4.11). This layer contained similar proportions of ceramic types as CU 14, with early 19th-century types predominating.

Below CU 12/17 were two deep fill layers (Fig. 4.11), which doubtless represent Mill Pond fill (ca. 1808–1828). These layers were excavated in Manual Units 2–4. The uppermost layer, CU 13, contained small quantities of ceramics, including creamware, pearlware, and whiteware (Table 4.1). The underlying fill layer, CU 7, also contained a mixture of ceramic varieties, including small numbers of tin glazed earthenware, slipware, and Westerwald stoneware, as well as larger quantities of later ceramics, such as creamware and pearlware. The mixture of ceramic types, containing, as it does, pottery from both the 18th and 19th centuries, indicates that at least a portion of the Mill Pond fill used in this area was derived from culturally mixed sources.

Below the Mill Pond fill (CU 7), the remains of a substantial wooden feature (CU 8) were uncovered in parts of grids h, i, m, and n (see Fig. 4.10; Figs. 4.12, 4.13 and 4.14). The maximum extent of this feature that could be exposed during the testing measured 14.5 ft northwest–southeast by 10 ft northeast–southwest. The upper portion of CU 8 consisted of a series of unhewn wooden beams, ranging in diameter from a few inches to about 8 inches, running northwest–southeast in such a way as to form a level surface. Further excavation revealed that this top layer of beams in turn rested upon a second series of more substantial beams, running northeast–southwest. Portions of five such wood beams were exposed; they averaged ca. 6 inches in diameter; the longest exposed beam measured over 9 ft in length. Three of these underlying cross beams, located in grid h, were spaced only ca. 1.4 ft apart.

As the beams in CU 8 were being exposed, the water table was encountered. Below the three closely spaced northwest–southeast beams in grid h, excavation revealed a portion of a third layer of timbers in the form of a large (diam. ca. 1.2 ft) wood beam running northeast–southwest (CU 33) (Figs. 4.12 and 4.14). This beam was the largest beam in the entire feature, and, although the constraints of the excavation and the water table prevented additional areas from being exposed, it is clear that this beam served as part of a third supporting layer for the feature and suggests the likelihood that additional similar timbers underlie the rest of the feature.

Immediately above the level of the wood feature (CU 8) was a thin layer of redeposited blue clay (CU 30), containing a small number of brick fragments and other artifacts. Only nine ceramic artifacts were recovered from this layer; they included 1 tin glazed, 1 slipware, 2 Westerwald, 6 unidentified earthenware, and 2 unidentified stoneware sherds (Fig. 4.15, see Table 4.1). Although the small number of diagnostics precludes the assignment of a firm date for the feature, a date in the period from the end of the 17th century/first half of the 18th century is suggested. As the topmost level of CU 8 was exposed (i.e., the northwest–southeast timbers), it was decided to sample the clay in between the individual timbers as CU 31, although it was essentially the same blue clay as was found above the wood (CU 30). CU 31 also produced a very small number of ceramics, including 1 tin glazed, 1 Nottingham, 2 white salt glazed, 5 unidentified earthenware, and 1 unidentified stoneware (Fig. 4.16). As in CU 30, the artifacts from CU 31 appear to date no later than the mid-18th century.

Preliminary pollen analysis of samples collected from CU 30 (clay surface above wharf) and CU 31 (clay in between wharf timbers) indicates that well preserved pollen is present at concentrations of ca. 6,000 pollen grains per gram (see Appendix B). The samples are somewhat diluted by the presence of charcoal and charred plant fragments. Both samples contain Eurasian cereal and weed pollens, and sufficient differences exist between the two samples in pollen spectra, e.g., dock, pine, spruce, and hazel, to suggest that there were changes in ground cover and land use between the two strata.

It is important to note that no vertical timbers were found in CU 8, only alternating layers of northwest–southeast and northeast–southwest timbers, decreasing in diameter from bottom to top. The appearance of the water table at about the level of the large beam (CU 33) in the lowest level of the feature suggests the possibility that this layer was laid down directly upon the muddy bottom of the marshy soil on the edge of the Mill Pond. It is entirely possible that other layers of timbers underlie the level of CU 33 below the water table. In any case, the layers of timbers clearly form a level top surface that could have served as some sort of wharf or dock structure.

The southwestern limits of CU 8 could not be ascertained with certainty due to the hazard of excavating so deep adjacent to the brick wall feature, CU 20, which was bowed out along its exposed length in a potentially precarious position (see Fig. 4.10). The southeastern limit of the feature (in grid g) had been disturbed by the construction of the massive granite foundation wall (CU 5). This fact was particularly unfortunate because it prevented the dock feature from being followed towards the direction of dry land and the original shoreline. In grids m and n, CU 8 clearly extended into the unexcavated portions of the trench. The northeastern edge of the feature in grid n had apparently been disturbed to an unknown extent by the construction of the recent concrete footing (CU 24). To the north, in grids i and n, the feature clearly continues into the unexcavated scarp of the trench.

Following the testing at Trench A, the dock feature was covered with plastic sheeting. The excavation unit was then backfilled and the asphalt surface of the parking lot restored.

Discussion: The Mill Pond Wharf Site

Test excavations in Trench A revealed evidence of several structures dating to the 19th and 20th centuries: the 1923 garage (CU 5 and probably 24), located at 27-29-31-33-35 Endicott Street, according to the 1946 Sanborn (see Fig. 4.7); a brick building (CU 4 and 27), which can be identified on the basis of the cartographic and archaeological evidence with the structure formerly at 27-29 Endicott Street, and another brick structure (CU 20 and 27), located north of that building, formerly on the site marked as 31 Endicott Street on the 1946 Sanborn (see Fig. 4.7). The garage and the brick building at 27-29 Endicott Street are not considered significant remains.

The remains of the early 19th-century levels and below, however, are of considerable interest and are considered archaeologically significant. In grid squares h–i and m–n, the testing revealed a historical surface above the Mill Pond fill, consisting of a cobblestone paving (CU 9), thick deposits of Mill Pond fill (CU 12, 13, and 7), and the well-preserved remains of a wooden feature identified as a probable wharf (CU 8) (see Figs. 4.10 and 4.11). Together, these resources—here termed the Mill Pond Wharf Site—provide direct evidence for changes in land use on the edge of the original Shawmut

Peninsula between the late 17th and early 19th centuries. In addition, they encompass three of the categories of archaeological resources discussed in the Phase I report: settlement and structures, landfill, and wharf/wharf-related resources (see Elia and Seasholes 1989: 23–30).

The remains of the Mill Pond Wharf Site sampled in Trench A are important from a diachronic perspective—i.e., they reflect activities and changes in land use over time—and the wood wharf feature is clearly of primary significance. The identification of the structure as a wharf is strong, and it is reasonable to associate the feature with the "wharffe" recorded in the 1709 deed. The artifacts recovered from the deposits immediately above and within the wood timbers of the feature are compatible with an early 18th-century date. The Mill Pond wharf uncovered in Trench A is a unique discovery for Boston. Unlike the numerous wharves and wharf structures that are recorded in Boston along the harborside, this feature projects into the Mill Pond. The purpose of this privately owned wharf can only be guessed at given our present evidence. Was it used for travel? For the shipping of commercial products? If so, what types of articles were being shipped?

Another basic question is how ships reached the Mill Pond wharf. Were they coming in and out of the Mill Creek (now Blackstone Street)? Was the Mill Creek navigable this far up from Town Dock, or were vessels traveling through the Mill Pond? Phase II historical research conducted after the wharf structure was uncovered in Trench A indicates that during the 17th and early 18th centuries, ships were able to pass via a lock through the North Water Mill, located at the causeway. The information is contained in a record of a petition made at a Boston town meeting in 1712. The petition refers to the 1643 grant of the town to the proprietors of the Mill Pond, which allowed them to dam the pond as a source of water power. The grant stipulates that the Grantees of the Water Mills will "make & maintaine forever, a Gate of Ten foot in breadth to open with the Flood, for the passage of Boats into the Cove, at Such time as they may Arive at their Ordinary Landing places" (Boston Record Commissioners 1884: 176). The record also notes that "the Flood gates at the North Water Mill, which was Anciently the place where Boats did use to pass through into the Said Pond " have, "for Sundry years Last past," not been functioning in that capacity. The petition goes on to request that the mill owners be enjoined "to Enlarge ye said Gates for the free passage of Boats &c." The petition was so ordered.

The North Water Mill referred to in the 1712 record was located at the northeast end of the mill dam (the causeway), as is clear from the Price plan of 1769 (see Fig. 3.3). Thus the town record offers a fascinating piece of evidence for the use (and non-use) of "landing places" on the Mill Pond during the early 18th century.

The Mill Pond Wharf Site is considered eligible for the National Register under Criteria C and D. It is significant as a unique survival of a little-known aspect of Boston's early history—a private wharf, evidence of waterfront activity, building, and probably commerce along the shore of original land and the Mill Pond. Excavation of the wharf can inform about a variety of questions concerning use and adaptations along the original shoreline of the Shawmut Peninsula; commercial and possibly recreational facilities, privately owned, on a part of Boston's waterfront other than the main harbor; the form and construction technology of early, small-scale wharves; and the relationship between wharf and original shoreline.

In assessing the integrity of the site, it is important to note that the exposed portions of the wharf feature were well preserved; the three layers of timbering could be easily traced, as could the clay packed surface (CU 30) directly on top of the layer, which probably formed the uppermost surface of the wharf. Portions of the feature were disturbed by later construction. In particular, the large granite foundation CU 5 destroyed the junction of the wharf with original land in the excavation unit, and CU 24 probably caused some disturbance in the northeastern part of the wharf. On the other hand, the wharf timbers certainly continue to the west, north, and east, and it is very likely that the timbers continue in the direction of the original shoreline on the east side of CU 5, which was not tested during the excavations. Thus, substantial remains of the feature are likely to exist, and the overall integrity of the wharf is considered good.

Recommendation

It is recommended that Phase III data recovery excavations be conducted at the Mill Pond Wharf Site in order to trace the extent of the wharf feature and to investigate its form, function, and construction methods. In addition, it is recommended that intact deposits dating to the Early Republic period, i.e., the period of building and activity immediately above the Mill Pond fill, be sampled. The Mill Pond fill could also be profitably sampled in order to provide comparative samples with data already recovered at other Phase II test sites (MP01 Trenches A and B).

Exposure and excavation of the wharf feature is the primary target for the Phase III excavation. It is essential to excavate in all cardinal directions to elucidate the nature and form of the feature: to the west, to investigate the extent of the wharf and its relationship to the later brick building, whose back wall was exposed as CU 20; to the north and east, to determine the extent of the wharf; and to the south, especially, to locate the junction of the wharf with the original shoreline (Fig. 4.17). In addition, evidence may be found, either in the area of the original shoreline or on the wharf itself, of artifacts or wharf-related features associated with trading or shipping. Another focus of the Phase III research should be exploring the deepest levels of the wharf; the Phase II investigations only explored a portion of the deepest timber level (CU 33).

It should be noted that the brick building formerly at 31 Endicott Stret was not sampled during the Phase II testing, other than to expose its rear brick wall (CU 20). This post-1836 structure, which was truncated by a utility trench (CU 19), may not have had a basement, and the Phase III investigations should include sampling inside the building in order to clarify its chronology and its relationship with the wharf feature.

As an adjunct to Phase III investigations of the original shoreline in the area of Trench A, it is also recommended that a pollen profile be taken of the soils belonging to the top and bottom portions of the wharf; in addition, if possible, a core sample of the original Mill Pond bottom sediments would be useful in establishing prehistoric environmental conditions. It should also be remembered that intact portions of the original waterfront of the Mill Pond may contain the remains of prehistoric archaeological resources.

The area recommended for data recovery is shown in Figure 4.17. This area was all part of the former 19th-century "stable" lot, which became a garage in the 20th century (see Fig. 4.7). As can be seen from a comparison of the historical maps and the modern plan (see, for example, Figs. 4.1 and 4.17), virtually all of the 19th-century "stable" lot is located beneath the existing parking lot, and, except for areas disturbed by bent foundations and utilities, is accessible for excavation. The extent of area to be excavated represents a maximum area bounded by utility disturbances on the east and south sides, and by the west edge of the Phase II test trench on the west side. The north boundary of the area recommended for Phase III excavation has been arbitrarily defined to coincide with a series of bent disturbances. The area selected for Phase III data recovery (see Fig. 4.17) is considered sufficiently large to allow the complete exposure and excavation of the wharf structure and associated features and deposits.

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NE03 TRENCH B

Location and Targeted Resources

Trench B is in the northern part of block NE03 and is on land that was part of the original Shawmut Peninsula. It is in the former historic block that was bounded by Cross, Salem, and Endicott streets and was placed in order to test the open areas at the backs of the buildings that fronted on Cross and Salem streets (Figs. 1.1, 4.1, 4.18, and 4.19).

Historical Background

Trench B actually is over several historic lots: the northern part is in a lot that was at the corner of Cross and Salem streets, while the southern part—grids a, b, and c—is in a lot that fronted on Salem Street (Fig. 4.18). Because the corner lot, the one in grids e, f, h, i, and k, contained a building with a basement, not much will be said about it other than to note that it was a houselot on which the first house was apparently built in the 1660s and the brick tenement with the basement was probably built in the 1830s when other similar buildings on that block were erected.

The lot overlain by the southern part of Trench B—grids a, b, and c—was originally part of the corner lot, but by the 1670s the northern and southern parts of the lot were being occupied by separate households. Apparently the two households shared the same house, for when the corner lot was sold separately in 1698, the property included a messuage [house and land] containing "one cellar, one low room, one chamber, and a garret" and was bounded southwesterly "upon the other part of the aforesaid messuage." The lot line ran from Back (Salem) Street through the middle of the doorway back 29 feet to the "upper side of the middle of the well of said tenement" [house] and then from the well back to the Mill Pond (S.D. 19:65).

A similar reference to the well was used when the southern lot—the lot overlain by grids a, b, and c—was sold in 1727 by William Waters, a weaver who apparently lived on Lovell's Island in Boston Harbor, to John Dethick, a mariner who had recently moved to Boston from Honduras. The property was bounded 23 feet 10 inches by the street, 93 feet by the abutter to the south, 26 feet 9 inches by the Mill Pond, 68 feet 1/2 inch by the abutter on the north as far as the middle of the well, a jog of 3 feet north through the well, and then 29 feet more along the northern abutter to the street (Fig. 4.20; S.D. 41:148). The deed included "half the well" but made no mention of a shared house nor did the deed for the sale of the corner lot in 1733 (S.D. 55:79), so presumably there were separate houses on both lots by the early eighteenth century.

The southern lot had only a few owners in the 18th century. John Dethick died in 1738 and left the property to his wife who, in turn, left it, when she died in 1760, to her "good friends" Mary Eustis and her son Joseph Eustis, a housewright. Joseph Eustis finally sold the lot in 1786 to Bela French, another housewright, and at that time the property description was the same as that of 1727, including the references to the lot line running through the well (S.D. 155:124). French was apparently a non-resident owner, for the Direct Tax of 1798 says the property was occupied by "Mrs. Wolf & others" and was a lot of 2070 square feet with a two-story house of 759 square feet, all valued at $900 (Boston Record Commissioners 1890:193).

After Bela French's death, which apparently occurred in the early 1820s, the lot was sold in 1823 to Edmund Longley, a blacksmith, and William B. Daniels, a housewright. At that time the property was described as being bounded 22 feet 6 inches on Back (Salem) Street, 93 feet on the southern abutter, 26 feet 9 inches on the Mill Pond, and, on the northern abutter, 98 feet 6 inches, a jog of 2 feet 8 inches, and then another 28 feet 3 inches to the street (Fig.4.20; S.D. 282:180). Although there is no mention of a well, the 2 foot 8 inch jog in the northern lot line was clearly where the well had once been and suggests that it had been filled in by this date. This conclusion is supported by Longley and Daniels' purchase, also in 1823, of a very narrow "wedge of land," only three feet wide, on their north lot line (Fig. 4.20); a well is not mentioned in this deed, either, but the purchase was clearly designed to eliminate the jog in the lot line that had originally been for the well (S.D. 282:25).

The subsequent history of the lot revolves around the various structures erected on it. In 1823 the lot contained two houses, probably of brick, for in that year Longley and Daniels made an agreement to have mason work done on two 18-foot houses on Back Street (S.D. 283:64). In that year, also, Longley and Daniels divided the property, selling the east and west portions to different persons (Fig. 4.20; S.D. 283:86; 283:297), and by 1852 the eastern lot, the one relevant here, contained a brick tenement on Salem Street that had an ell and open space at the rear (Fig. 4.21). This ell and open space remained throughout the rest of the lot's history, though by 1874 the ell had been extended to the property line of the building fronting on Cross Street (Fig. 4.21). By 1929 the atlas maps indicate that grids b and a of Trench B were over a passage way to Salem Street, but when this passage was first created is not clear (Fig. 4.22). All the structures on the lot were demolished in the 1950s for the construction of the Central Artery.

In sum, Trench B was over two historic lots that date from the 17th century. The northern part of the trench overlay a lot formerly on the corner of Cross and Salem streets that contained a 19th-century building with a basement which had destroyed earlier remains, while the southern part of the trench was over a lot that had fronted on Salem Street. The lot line between the corner and the Salem Street lots was marked by a well from the late 17th to the late 18th century; originally these two lots apparently shared a house but by the early 18th century there were evidently separate houses on both lots. The well was probably filled sometime between 1786 and 1823, but the jog in the property line remained until straightened by the sale of a narrow wedge of land in 1823. In 1823 the Salem Street lot contained two brick houses; by 1852 this had been replaced by a brick tenement with a rear ell and this building remained, with modifications, until the 1950s.

The land use history of Trench B indicates that the northern part of the trench was covered in the second quarter of the nineteenth century by brick buildings with basements that would have destroyed the evidence from the 17th and 18th century houselots originally in that location. The southern part of the trench, however, was not disturbed by basements and so might contain archaeological evidence of the 17th and 18th century houselots that were originally in that area. The trench was apparently located quite close to the rear of the 17th–century house on the site, so the activities that probably took place there included not only the use of the well, which also marked the property line, but also the comings and goings from the rear entrance of the house, the disposal of trash, and the presence of domestic animals. In the early 18th century a new house was built on the lot; its exact location in relation to Trench B is not clear, but the trench was presumably again at the rear of the house and the activities would have been those typical of the backlot of a house owned successively by a weaver, a mariner, and a housewright. By 1798 the house was occupied by tenants and about this time the well was filled in. In the second quarter of the 19th century brick tenements were built along Salem Street and the subsequent activities in the area were those associated with an open lot and passageway in a densely settled urban area.

Excavation Procedures

Trench B was laid out as a 30 x 40 ft unit and gridded into 10 x 10 ft squares labelled a–l (Figure 4.8). Ultimately an area 20 x 40 ft with a 10 x 10 ft addition to the southeast was excavated with squares d/g/j remaining unexcavated (Figure 4.23). Both manual and machine excavation was carried out. Four Deep Tests were conducted in this trench. Manual work in Trench B consisted almost entirely of clearing and defining features and test sampling the associated deposits.

Results of Testing

Work began in squares e/h/k with the removal of the asphalt (CU 1) and two layers of sand bedding (CU 2, 3) (Fig. 4.23). Immediately below these layers was a brick-filled sandy rubble layer (CU 4). As the rubble level was being removed a large granite wall running roughly east–west (CU 6) began to appear in the northern part of square k. Excavation through the rubble level (CU 4) continued to the south of CU 6 up to the point when a cement floor (CU 8) abutting the wall was uncovered approximately 5 ft below grade. A hoe-ram was used to break through the cement floor and most of the area in squares e and h was cleared to test for the presence of cultural deposits below the level of the basement (Fig. 4.24). Two deep tests were excavated into the deposits beneath CU 8 (Fig. 4.23). The underlying matrix was a mottled olive clayey sand (CU 10) that was sterile in square e (CU 12). A circular brick feature (CU 11) two courses thick and approximately 2.5 ft in diameter was also found below the level of the basement floor in grid h (Figs. 4.23 and 4.25). CU 11 appears to have been a truncated well or cistern. Two levels (CU 13 , 15) of its fill were sampled, but only small amount of material was recovered (Table 4.2). The diagnostic ceramics, such as whiteware, suggest that the fill in CU 11 dated to the mid 19th century.

During clearing of the basement floor (CU 8), a brick foundation wall (CU 9) running perpendicular to the granite foundation was found in the west sidewall of square k. In order to clear more of CU 9, squares i and l were opened and stripped down to the level of the granite foundation (CU 6). CU 6 was approximately 2 ft wide and ran across grids k and l and continued beyond the edge of the excavated area to both the east and west. CU 6 was apparently the north wall of the building at the corner of Cross and Salem Streets and CU 9 was the west wall of this same building (Fig. 4.18). A second brick wall (CU 16) running perpendicular to the granite foundation was found approximately 4 ft west of the first brick wall (CU 9) and had an abutting wall (CU 17) that turned to the west roughly 11 ft south of the granite foundation (Fig. 4.23). CU 16 and 17 were the east and south walls of the adjacent building to the west (Fig. 4.18). Deep Test 3 was in the four-foot gap between the two brick walls (CU 9 and 16) in square l. A number of large pieces of metal pipe 4 inches in diameter (CU 21) were found in this deep test in a dark brown very organic matrix (CU 18) resting on sterile clay (CU 19).

In order to try to get behind the buildings whose foundations had been uncovered, the testing shifted to squares a, b, and c, in the southernmost edge of the trench (Fig. 4.23). Excavation began in squares b, c, and the eastern half of square f, and a number of different features were rapidly uncovered. A brick wall (CU 24) running east–west, presumably the rear wall of the building on the corner of Cross and Salem streets, was found in square c and extending into f and b. Immediately to the north of this wall, and abutting it, was a section of concrete floor (CU 26) at the same elevation of the concrete floor found in squares e, h, and k, apparently a rear portion of the building's basement floor (CU 8). A brick and mortar feature (CU 27) that seemed to be a slightly curving wall running northeast into square f was also found in on top of the floor (CU 26) and wall (CU 24) (Fig. 4.23). A very differently constructed stone and mortar wall two courses wide (CU 22) ran south from where it joined the brick wall (CU 24) into the south sidewall of square b. Deep Test 4 in square c and the western portion of square b west of the brick wall (CU 24) encountered sterile olive clay with stone inclusions (CU 25), but did expose part of a brick feature (CU 29) underneath CU 22 in square b. A portion of CU 22 was removed to investigate this feature.

Well (CU 29)

CU 29 was a circular brick feature constructed of a single row of rectangular bricks laid end to end (Figs. 4.23 and 4.26). The diameter was approximately 2.5 feet on the interior and about 3 feet on the exterior. This feature appeared to have been a truncated well with the uppermost portion disturbed by the construction of CU 22, a wall which which rested on top of it. A total of six levels of moist fill were excavated inside the feature. The uppermost layer (CU 30) was a dark greyish brown sand with many bricks and brick fragments, presumably representing the upper portion of the feature pushed in when CU 22 was built. Immediately below CU 30 was a layer of dark greyish brown clay and fine sand (CU

31). The next level, CU 32, was similar in color and soil composition to CU 31, but had fewer inclusions. Below CU 32 was a dark grey sandy clay layer mottled with brownish-yellow sandy clay (CU 34). Underlying CU 34 was a very moist level of clay, silt, and gravel (CU 35). The lowest level of the feature (CU 39) was olive gray sandy clay. Approximately four feet of the fill (CU 30–32 and CU 34–35) was excavated manually and approximately the last half foot (CU 39) was excavated by backhoe.

A rich artifact assemblage was recovered from the fill levels in CU 29 (Table 4.2), and most of it appears to be domestic refuse. Ceramics, bottle glass, faunal remains, and wood fragments dominated the assemblage. Some architectural remains were also recovered; they included window glass, a small number of nails mortar fragments, and a slate shingle fragment. CU 30 probably represents the final filling episode of the well and includes some late 18th- and early 19th-century material such as creamware, pearlware, and whiteware (Table 4.2). The lower levels of the feature (CU 31, 32, 34, 35, 39) are all very similar in terms of artifact types and appears to date to the mid-18th century. The ceramics of the lower levels of the well (CU 31–35, 39) consisted predominantly of blue and polychrome handpainted earthenwares, trailed and combed slipwares, and white salt glazed stoneware; smaller quantities of Westerwald and other stonewares and earthenwares were also present. The single whiteware sherd from CU 39 probably represents an accidental inclusion caused by the use of the backhoe. It was possible to identify several individual vessels; these included Chinese export porcelain bowls with blue underglaze, redware mugs, slipware bowls, and two trailed slipware milk pans.

Excavation in square a completed the work in Trench B (Fig. 4.23). A brick and modern artifact-filled rubble layer (CU 23) similar to the rubble layer filling the basement (CU 4) was removed by backhoe, revealing another rubble-filled layer below (CU 33). Once this material was cleared and manual work in square a begun, a portion of a brick wall (CU 36) running north-south parallel to the stone wall in square b (CU 22) was found in the east sidewall of square a; CU 36 was apparently a portion of the south wall of the building on the corner of Cross and Salem streets (Fig. 4.18). The sterile olive clayey silt (CU 38) that was underneath the rubble layers in this area was cut by a very thin strip of olive grey silty clay (CU 37) running roughly east-west which contained a large piece of wood as well as a number of small wood fragments. Although CU 37 initially looked as if it might be an earlier feature in the passageway opening onto Salem Street (Fig. 4.18), the artifacts recovered, though few in number, appear to date the feature to the early 19th century.

Discussion

With the exception of squares a, b, and c, most of test Trench B was placed inside a building with a basement on the corner of Cross and Salem streets. The deposits surrounding and associated with this building yielded very late materials, all of which are related to development in the 19th century and later. The most interesting object from these deposits was a section of a marble gravestone found in the top of the rubble layer (CU 4) in grid e (Fig. 4.27). This gravestone was not in place and was not associated with a grave on the site. The stone does, however, have an inscription, which reads "Charlotte H./wife of/Calvin A. Littlefield/died/[A]ug 16, 1885," and this information made it possible to trace the history of the stone and to explain how it could have been found in the rubble of a building on Cross Street in the North End. Research indicated that Charlotte Littlefield had lived in East Boston and, after her death in 1885, was buried in the Woodlawn Cemetery in Everett; the marble gravestone was presumably erected at this time. In the mid 1920s, however, a single family marker was erected for all members of the Calvin Littlefield family and the individual gravestones were removed. Charlotte's stone was apparently taken by the Henry Murray Monument Company, which had carved the new family marker and at that time was located on Merrimack Street, about half a mile from Trench B. The Murray Monumant Company moved to Jamaica Plain in 1956 when the Central Artery was being constructed; it is hypothesized that fill from the company's lot on Merrimack Street was used during the Artery construction and as a result the Charlotte Littlefield stone was deposited in the rubble of the building formerly at the corner of Cross and Salem streets (Berkland 1988).

Testing below the level of the basement was generally unproductive and only a single truncated well or cistern feature (CU 11) was found. Artifacts sampled from the fill of this feature indicate a mid 19th-century deposition period. CU 11 was probably built at the time when the 19th-century building in this area was first constructed and later sealed off during subsequent alterations to the basement. The other feature discovered below the 19th-century building remains (CU 29) dates to an earlier period and seems to be the well referred to in many deeds when the property was owned by John Dethick, Mary and Joseph Eustis, and Bela French. Historical records suggest that this well went out of use sometime between 1786 and 1823. Diagnostic material from the upper fill layer (CU 30), such as creamware and pearlware, seem to support this date; material from some of the lower layers appears to date to slightly earlier in the 18th-century (Table 4.2) Unfortunately, this feature appears to have been an isolated find. None of the other features or surrounding deposits date to the same or earlier periods. Nineteenth-century development in this area seems to have been quite extensive, leaving relatively few remains of earlier periods intact.

Recommendation

The 19th-century development in this area seems to have adversely impacted the integrity of earlier deposits. Although a couple of interesting features were discovered, they appear to be relatively isolated finds. As a result, further archaeological testing in the area of NE03 Trench B is not recommended. The site is not considered archaeologically significant or eligible for inclusion in the National Register.

NE03 TRENCH C

Location and Targeted Resources

Trench C was located in the block formerly bounded by Hanover, Cross, North, and North Centre streets (see Fig. 4.1) and was placed in order to test the backs of several historic lots that did not have basements. It actually covers parts of five different lots and for convenience they have been given the names that appear on the 1929 Sanborn atlas (Fig. 4.28). Three of these lots fronted on the former North Centre Street: the "Storage" building, "Tin Shop," and "Stove Ware Ho." lots. One lot was reached by a passageway from Hanover Street, the "Wagon Ho." lot; and one was part of a lot that fronted on Cross Street, the unnamed open lot north of "Stove Ware Ho."

Excavation Procedures

Trench C consisted of an L-shaped excavation unit (Fig. 4.29), containing twelve 10 x 10 ft grid squares (a–l). Ten of these grids (1000 sq ft) were opened up and tested (a–d, g–l). A combination of manual and backhoe-assisted testing was employed in Trench C. Four backhoe trenches were excavated (Deep Tests 1–4) in order to investigate a deep profile and to elucidate subsurface conditions (Fig. 4.30). Deep Tests 1 and 4 were excavated in grids a–b. Deep Test 2 was excavated in grid j, and Deep Test 3 in grid h.

A total of 13 manual excavation units (MU 1–13) was excavated in order to investigate specific features and to provide controlled sampling of the trench (Fig. 4.30). Manual Units 4–6, 8, 9, 11, and 12 measured 3 x 3 ft; the dimensions of the other units varied: MU 1 (2 x 2 ft), MU 2 (2 x 2 ft), MU 3 (2 x 1 ft), MU 7 (3 x 2 ft), MU 10 (6 x 3 ft), and MU 13 (4 x 4 ft). Manual Units 1 and 2 were excavated in grid l to investigate the general conditions of the subsurface deposits. Manual Units 3, 5, and 7 were dug in grid j in the vicinity of a building wall (CU 5). Manual Units 4, 6, 8, 9, 11, and 12 were excavated below the level of the 19th-century building floor in grids d, g, and h in order to explore earlier levels on the site. Manual Units 10 (grid k) and 13 (grid h/j) investigated subsurface conditions elsewhere in the trench.

Results of Testing

Initial activities on the site included the removal of the asphalt parking lot surface (CU 1), the identification and exposure of a modern electrical line (CU 2) running diagonally across grids c and g, and the removal with the front-end loader of the sand bedding (CU 3) for the asphalt (Fig. 4.30). These activities were followed by exploratory investigations with backhoe, shovel, and trowel, which revealed the existence of a number of shallow features belonging to the remains of a series of 19th-century buildings that formerly occupied the site. The excavations also unearthed a series of houselot deposits and features dating to the late 17th/early 18th centuries and two other features dating to the early 18th and early 19th centuries respectively.

For the sake of convenience, the results of testing for Trench C are presented below in five sections, corresponding with the five historic lots that appear and are named on the 1929 Sanborn atlas (Fig. 4.28). These are: 1) "Storage" building lot; 2) Open lot north of "Stove Ware Ho." ; 3) "Tin Shop" lot; 4) "Wagon Ho." lot; and 5) "Stove Ware Ho." lot. Under each lot, the presentation will include the historical background; results of testing; discussion; and recommendation. It should also be noted that the "Results of Testing" section has been divided into two sections, one dealing with the 19th-century remains, the other with deposits of earlier periods.

"Storage" building lot

Historical Background

The "Storage" building lot actually only became one historic parcel in 1795; before that date it was two separate parcels running from North Centre Street back to the present north lot line (see Fig. 4.28). The eastern parcel was the back part of a large 17th-century estate that fronted on North (formerly Ann) Street (Fig. 4.31). This lot had a house on it as early as 1656 (S. D. 10:188) and was owned for the remainder of the 17th century by members of the Paddy family, merchants after whom Paddy's Alley (later North Centre Street) was named. The estate had many owners in the first two decades of the 18th century; when it was sold in 1717 to another merchant it had on it a "stone messuage or tenement ... with four brick tenements before it, being two on each side of the arch" and measured 56 feet along Ann Street, 190 feet on the north, 89 feet on the west, and 220 feet on the south (Fig. 4.31; S.D. 32:51). The same description and dimensions were used again when the estate was sold in 1726 to a brazier (S.D. 40:164), who owned it until his death in 1760, and the same dimensions were again repeated in 1761 when the entire parcel was sold to Jonathan Williams, a merchant (S.D. 96:126).

The western half of the "Storage" lot was originally part of a much larger 17th-century lot 48 feet wide and 155 feet long that ran from the Mill Creek (now Blackstone Street) back to the north lot line (see Fig. 4.28 and Fig. 4.32). It was owned by a John Jepsen as early as 1655 and was sold by him to his son John Junior, a carpenter, in 1685 (S.D. 13:460). John Jepsen Jr. died in 1721 and his land was partitioned by court order in 1728; the lot that became the western half of the "Storage" lot measured 21 feet on the north, 114 feet on the east, 17 feet along Paddy's Alley (later North Centre Street), and a total of 106 feet on the west (Fig. 4.32). This lot contained a barn and had apparently been part of the garden of the original houselot (the house was on the adjoining lot to the west). The "Storage" lot and barn were sold almost immediately in 1728 to Elisha Hedge, a tailor (S.D. 43:157), and, by the time it was resold in December 1730, it is clear that a house had been built, for the parcel had increased in value from £200 to £700 in two years and the sale was of the land and a "dwelling house consisting of two tenements" (S.D. 45:80).

The property then changed hands frequently, although it was owned from 1738 to 1754 by a physician (S.D. 57:210; 88:76) and by a goldsmith after 1756 (S.D. 88:170). In 1784 the parcel that became the western half of the "Storage" lot was sold to Jonathan Williams, the merchant who owned the large adjoining estate on the east that contained what became the eastern half of the "Storage" lot (S.D. 144:72), so the two lots were united in ownership although apparently still treated separately (Fig. 4.31). In 1785 Jonathan Williams sold the western lot to his son John (S.D. 149:210), who, in turn, sold a strip on the west side to an abuttor, making the width of the remaining lot 15 feet throughout (S.D. 179:280; Fig.4.32). John Williams then sold this remaining parcel back to his father (S.D. 154:116), and in 1794 the latter sold both this parcel and the large estate to Joseph Hall, a gentleman (S.D. 179:204). The following year, 1795, Hall combined the western lot and part of the estate to form a new lot and sold it to Isaac White, a trader (Fig.4.31). This new parcel, which included the "building thereon" and, as had always been the case historically, the use of the well in the lot to the west, measured 43 1/2 feet on a fence along Centre Street, 85 1/2 feet on the west, 30 feet on the north, and 93 feet on the west (S.D. 180:39; Fig. 4.31). These measurements make clear that this parcel contained not only the two halves of the "Storage" lot but also the "Tin Shop" lot (see Fig. 4.28).

Isaac White still owned the property in 1798, when the Direct Tax described it as a 2975 square foot lot valued at $1100 and containing a "Barn of Wood" (Boston Record Commissioners 1890: 25); this would indicate that the 1730 dwelling house of "two tenements" had been taken down by this date. White died in 1816, and in 1817 his heirs sold the lot, then occupied by a Timothy Batts, to Catherine Codman, who at that time owned the large estate abutting on the east (S.D. 254:229; Fig. 4.31). (It should be noted that the large stone "messuage" on the Codman estate was then being used as a tavern, as shown on an 1814 map [Fig. 4.3]). Catherine Codman held various parcels of real estate for the benefit of her children and, as she stated in an 1822 declaration, made various improvements on them.

In the case of this lot, in 1821 she had purchased the right to have a two-inch leaden pipe bringing water from a well on the opposite side of Centre Street (S.D. 279:91), and sometime before 1822 she had built a "brick stable or shed" and enlarged the yard (S.D. 280:89–91).

Catherine Codman died in 1832 and her heirs held the property until 1849, when it was sold to one owner; at that time it was described, as it had been periodically since 1824, as "occupied by the Eastern Stage Co. and other tenants in front on the [North] street" and as containing the "buildings added thereto by Catherine Codman." The implication of these two descriptions is that no new structures had been added in the previous quarter century. In any case, by 1852 the Slatter and Callan map shows that the "Storage," "Tin Shop," and northern part of the "Stove Ware Ho." lots were occupied by buildings, and this is confirmed by the 1867 Sanborn atlas (Fig. 4.33). On the latter map the structure on the "Storage" lot was three stories, that on the "Tin Shop" one story, and that on the western part of the "Stove Ware Ho." two stories. On the 1885 Sanborn, the "Storage" lot building was described as a "Mattress Shop Storage," the "Tin Shop" as "Storage," and the "Stove Ware Ho." as a "Slate Mantle Fac., to be marbelized" (Fig. 4.33). In 1895 the last-named structure was shown as having three stories and a basement and was labeled "Stove Ware Ho" (Fig. 4.33). These three buildings stood until the mid-1950s when they were demolished for the construction of the Central Artery.

To summarize, the "Storage" building lot was actually composed of two long narrow historic lots that ran from North Centre Street to the northern lot line. The easternmost of these, which contained Trench C, was the back lot of a large 17th- and 18th-century estate that fronted on Ann (North) Street. It is not clear whether there was ever a structure on the "Storage" lot part: the barn cited in the Direct Tax of 1798 may have been on the lots adjoining to the east or west, which were part of this parcel at that time, but the "Storage" lot probably had a brick stable or shed built sometime between 1817 and 1822. The rest of the estate had a number of residences in the 17th and 18th centuries and was the location of a tavern and stagecoach stop in the 19th century.

The western half of the "Storage" building lot, which is immediately west of Trench C, was part of a larger 17th-century parcel; it was apparently part of the garden and in 1728 it contained a barn. By 1730 this lot had a "dwelling containing two tenements" that obtained its water from a pump in the passage immediately to the north. This house was apparently taken down before 1798 and the use of the lot between that time and 1852, when it was covered by a building, is not clear.

Because the "Storage" building lot is composed of two historic parcels, the two halves of the lot may have been used in different ways. The eastern part of the lot, which was at the back of a large estate may have been used for gardens, privies, trash disposal, or other activities typical of 17th and 18th century backlots. The western half of the "Storage" lot was used much more intensively in the same period: in the 17th century it was part of a garden, in the early 18th century it contained a barn, and ca. 1730 a two-family house was constructed on the lot. This house had a long series of owners between the time of its construction and the 1780s: a tailor, a trader, a mariner, a shopkeeper, a merchant in Barbados, a physician, a cabinetmaker, a goldsmith, a printer, and another trader — a mix of professionals and craftsmen typical of the North End in that era. The activities on the lot would have reflected the fact that it was only 17 feet wide and yet contained a two-family house; one would thus expect intensive trash deposits, cultivation of gardens, and location of other features, such as privies. Because this lot was so narrow, some of these uses, such as depositing trash, may have spilled over into the lot to the east, the other half of the "Storage" building lot. After the two halves of the lot were combined in 1795, its use is not as clear although in the first half of the 19th century it was apparently the backlot of the tavern and stage coach stop located on the North Street estate.

Results of Testing

1. Nineteenth-Century Remains

Excavations in grid c–d, g–h, and i–j revealed the remains of the three-and-a-half-story brick structure referred to as a "Storage" building on the 1929 Sanborn atlas (see Fig. 4.28). This building was used as a mattress shop (1885) and mattress factory (1895), according to earlier Sanborn atlases (Fig. 4.33). The building did not contain a basement.

Portions of two of the foundation walls of the "Storage" building were unearthed during the testing. Part of the east foundation, measuring 2 ft wide and ca. 19 ft long, and consisting of large, cut granite blocks set in mortar, was exposed in grids c, g, and i (see Fig. 4.30). This wall abutted the northwest corner of the "Tin Shop" (CU 19), and ran in a northerly direction to a corner in grid i, where it met the north wall (CU 5) of the "Storage" building. The foundation was not preserved throughout its length, but the trace of its course could be accurately defined. The north (back) wall of the "Storage" building was exposed in grids i–j as CU 5. This foundation measured 1.5 ft wide, and consisted of granite blocks set in mortar. The juncture of CU 5 with the long east wall described above was not well preserved, but could be traced by the presence of a number of small stones.

The interior space of the "Storage" building, as enclosed by the two walls described above, and by the limits of the excavation trench, covered most of grids c–d, g–h, and i–j (Fig. 4.30). The excavations revealed several interior structural features associated with the building and portions of its floor paving. Along the west edge of the excavation a series of five brick features was uncovered. Three were square brick piers (1.75 x 1.75 ft) or supports, probably for interior columns or posts: CU 10 (grid h), CU 11 (grid h), and CU 22 (grid d). CU 11, which was investigated in Deep Test 3, had five courses of bricks resting upon a cement footing; the entire feature was ca. 2.25 ft high. North and south of CU 22 were two smaller but similar brick features (CU 12 and 13). It is unclear what their purpose was, but their alignment on the same north-south axis as the larger brick features suggests that like them they served to support interior columns or posts for the "Storage" building.

Another feature that is probably associated with the 19th-century "Storage" building is CU 9 in grid j (Fig. 4.30). This feature consists of two rows of bricks resting on a cobble footing, and may be a base or support although its function is uncertain and it does not seem to be related to the other brick pier features inside the building.

The floor level of the "Storage" building was ascertained with a good degree of certainty. In grid d part of a brick floor paving (CU 17) was uncovered; elsewhere throughout the trench, the floor level was exposed in CU 14, a thin layer of crushed brick and mortar.

2. Earlier Remains

Extensive deposits of late 17th-/early 18th-century cultural materials were uncovered in grid squares c–d and g–j, directly below the level of the floor (CU 14) of the 19th-century brick "Storage" building (see Fig. 4.30). These deposits were dated on the basis of ceramic and other artifactual evidence to a period between the end of the 17th century and the 1730s or 40s. Although there were scattered remains from the second half of the 18th century (e.g., creamware) and the early 19th century (e.g., pearlware), the strata belonging to these later periods were essentially absent here. Since the area of Trench C was certainly occupied during those periods, their absence can be attributed, with a high degree of likelihood, to the effects of the construction of the "Storage" building, which was standing at least as early as 1852 (see Fig. 4.33).

Investigations below the level of the floor of the 19th-century "Storage" building began with the removal of the brick/mortar floor level (CU 14) by shovel and with the excavation of Deep Test 3, a ca.

7 x 2.5 ft backhoe-excavated exploratory unit in grid square h. This unit revealed a sequence of dark, clayey soils containing artifacts dating to the 18th century and possibly slightly earlier (Fig. 4.34). In order to sample these early deposits, which were the targeted resource for Trench C, a series of manual units was excavated. In grids g–h, just below CU 14, the remains of a stone and mortar wall or foundation (CU 53) were found (Fig. 4.30). From its position in the trench and the difference in its manner of construction, this feature did not appear to be associated with the 19th-century "Storage" building, for reasons that will be described below. Instead, CU 53 seemed to pre-date the "Storage" building.

A total of six 3 x 3 ft manual excavation units was excavated in grids c-d and g-h in the vicinity of the suspected early stone wall feature (CU 53): MU 4, 6, 8, 9, 11, and 12 (see Fig. 4.30). These units exhibited a consistent stratigraphy of 2–3 ft of cultural strata dating chiefly to the late 17th/early 18th centuries. Additional excavation demonstrated that these strata continue throughout the extent of Trench C. These excavations included MU 13, a 4 x 4 ft unit, excavated in grids g–h, and MU 3, 5, and 7, located in grid j in the vicinity of the east (back) wall (CU 5) of the "Storage" building (see Fig. 4.30). Three other manual units (MU 1, 2, and 10) explored the early levels in grid squares k and l. A description of these excavation units is presented below.

a. *MU 6, 4, 8, 9 (Grids d, h and Deep Test 3)*

Manual Units 6, 4, 8, and 9 contained the typical stratigraphic sequence for the site (see profile, Fig. 4.35). Directly below CU 14, the brick and mortar layer that marked the floor level of the "Storage" building, excavation revealed a stratum of black and very dark brown sandy silt (CU 15). This layer ranged from 0.3–0.4 ft in thickness and contained a variety of ceramic types, including several probably dating to the early or mid 18th century (e.g., tin glazed, slipware, Westerwald, Brown Frechen) along with a number of late 18th- and early 19th-century types, such as creamware and pearlware (Table 4.3). Below CU 15 was a thicker stratum (CU 29), consisting of very dark gray clayey sand. This layer, which varied from 0.3–0.5 ft in thickness, contained a number of predominantly early 18th-century ceramic types (Table 4.3). Pearlware was notably absent from the level, although a few sherds of creamware still appeared. Tin glazed, Westerwald, white salt glazed, and slipware predominated. Underlying CU 29 was a thick stratum, CU 32, consisting of very dark gray clay silt ranging in thickness from 0.8–1.0 ft. The ceramic assemblage from this stratum consisted of abundant late 17th-/early 18th-century types, including tin glazed, slipware, sgrafitto, North Devon, Brown Frechen, Westerwald, and an abundance of probable local redwares. One ceramic find of note was the discovery of two Westerwald fragments , each with an "AR" cipher, denoting "Anna Regina" (Queen Anne), who ruled England from 1702–14 (Fig. 4.46 E,G). Also noteworthy was the virtual absence of creamware (1 sherd of 473); even white salt glazed stoneware was barely represented (6 of 473). Common 19th-century ceramic types, such as pearlware, were completely absent from the stratum (Table 4.3).

Below CU 32, at a depth of ca. 3 ft below the floor level of the 19th-century "Storage" building, a stratum of olive clay (CU 30) was encountered in MU 6-4-8-9. This stratum was not excavated in these units, but the excavation of Deep Test 3 demonstrated that the normal stratigraphy for the site included CU 30, the olive clay, and a deep stratum of blue clay, labeled CU 31 in Deep Test 3 (see Fig. 4.34). (CU 30, the olive clay, is the same as CU 40 in Deep Test 4, grids a–b [see Fig. 4.65], and CU 16/26 in Deep Test 2 and MU 2, grids j–l. The blue clay [CU 31], which underlies the olive clay [CU 30] in Deep Test 3, is the same as CU 28 in Deep Test 2, grids j–l.) The sequence of CU 15, 29, and 32 was found to be repeated elsewhere throughout Trench C. It should be noted that the differentiation of these layers as separate stratigraphic levels was made on the basis of slight, though recognizable, differences in soil color and texture. All three strata were dark, moist, and contained a high content of clay. The analysis of the excavated ceramics, particularly the noted drop in the frequencies of late 18th-/early 19th-century ceramics, such as creamware and pearlware, tends to confirm the validity of separating CU 15, 29, and 32 as distinct stratigraphic entities.

The three strata, CU 15, 29, and 32, also contained abundant materials besides ceramics (Table 4.3). These included glass (both window and bottle), bone, brick, pipe stems, metal, etc. Overall, the excavated remains appear to represent essentially domestic assemblages; such assemblages are consistent with what one would expect on domestic houselot sites.

b. *Stone Wall/Foundation (MU 11, 12, 6 in Grids d, g, h)*

As mentioned above, removal of the floor layer (CU 14) of the "Storage" building exposed the top of a portion of a stone and mortar wall or foundation feature (CU 53) in grids g–h (see Figs. 4.30 and 4.36). The top of this feature was at an elevation of 10.34 ft, which was about 0.2 ft below the level of the floor of the "Storage" building. CU 53 was 1.3 ft wide and was preserved to a length of ca. 6 ft. The feature consisted of a series of small, slab-like stones set in mortar. The use of small stone, as well as the narrow width of the feature, suggests that it is not related to the more substantial foundations of the "Storage" building; its position below the level of that building's floor points to the possibility that it was an earlier wall or foundation that was truncated or covered over during the construction of the "Storage" building. It should be noted that the feature, if extended to the east, would make a right angle with the east lot line (marked in its latest phase by the east foundation of the "Storage" building).

Manual Units 11, 12, and 6 were laid out to intercept CU 53 and to investigate the possible presence of a builder's trench for that feature. Unfortunately, no builder's trench could be distinguished in these units. MU 11 and 12 contained the stratigraphic sequence of CU 15-29-32, as in MU 6-4-8-9, but in MU 11 and the eastern portion of MU 6 an intervening stratum of dark olive/gray clay mottled with black silty sand (CU 43) was present between CU 29 and 32 (see Fig. 4.35). Only a small number of diagnostic ceramics was found in CU 43, including 1 creamware, 2 tin glazed, 1 Westerwald, 1 Staffordshire earthenware, and a few unidentified earthenware sherds.

Two stones were found just south of CU 53 in grid d (see Figs. 4.30 and 4.35). These stones were set into CU 15; although together they appear to form a roughly north–south alignment, it is not certain if they should be associated together as some type of feature.

c. *MU 13 (Grids g,h)*

MU 13 was a 4 x 4 ft excavation unit laid out north of the stone feature (CU 53) (see Figs. 4.30 and 4.35). This unit was placed there in order to continue sampling the early strata on the site. It was also hoped that the excavation unit could reach sterile soil or the water table.

Excavation of MU 13 revealed the typical stratigraphic sequence observed in MU 4, 6, 8, 9, 11, and 12 (Fig. 4.37). The floor level (CU 14) of the "Storage" building was underlain by cultural stratum CU 15 (here 0.5 ft thick), which was in turn underlain by CU 29 (0.3 ft thick) and CU 32 (1.0 ft thick). Excavation below CU 32 revealed the presence of a stratum of dark gray clay (CU 58) with charcoal inclusions, brick fragments, and other cultural materials, including 4 tin glazed, 1 slipware, 1 North Devon, 2 Westerwald, and 7 unidentified earthenware sherds. This stratum was ca. 0.2 ft thick and overlay a layer of dark olive/gray clay that was identified as CU 30 (the unexcavated olive clay layer below CU 32 in MU 6-4-8-9).

Exposing the surface of CU 30 revealed the presence of three probable features (Fig. 4.37) Each is described below.

(1) CU 59 (Refuse Pit?)

CU 59 was an olive/gray silty clay that cut into CU 30. It measured ca. 1 ft wide and had a maximum length of 1.5 ft; its west end continued into the west scarp of the excavation unit (Fig. 4.37). Excavation of CU 59 showed that the feature was roughly bowl-shaped and extended to a depth of 0.8 ft below its top surface (Fig. 4.37). A total of 14 ceramic fragments was excavated from CU 59, including 1 slipware, 1 North Devon sgrafitto, 1 Brown Frechen, 1 Westerwald, and 10 unidentified earthenware sherds. In addition to the ceramics, the feature contained a fragment of a tobacco pipe bowl marked "SP," a body fragment of a green case bottle, 2 fragments of unidentified metal, 1 nail, 23 bone fragments, 11 shell fragments, 1 piece of coral, and 1 honey-colored flint spall. As CU 59 was being excavated, the water table was encountered in the unit; by the time the excavation of the feature was completed, water had filled the pit.

(2) CU 60

Located in the west corner of MU 13, CU 60 was an oval discoloration within CU 30 (Fig. 4.37). Due to time constraints, it was not possible to excavate this possible feature. No artifacts were recovered from this feature; a soil sample was taken.

(3) CU 61 (Post Mold?)

Near the north corner of MU 13, a square discoloration within CU 30 was exposed. Because of its square shape, this feature (CU 61) was thought to represent a possible post mold (Fig. 4.37). Due to time constraints, this possible feature could not be excavated but a soil sample was taken.

d. *MU 3, 5, 7 (Grid j)*

Three manual excavation units were placed in grid j in order to investigate the nature of the earlier deposits in this part of Trench C (Fig. 4.30). An important goal of the excavation of MU 3, 5, and 7 was to test for the presence of a builder's trench for CU 5, the wall that was later determined to be the north (back) wall of the 19th-century "Storage" building. (At the time that MU 3, 5, and 7 were initiated, CU 5 had been exposed, but none of the other 19th-century building foundations in Trench C had been uncovered).

In both MU 3 and MU 7 no clear evidence of a builder's trench was found, although in profile, soil strata sloping down towards the wall were detected in MU 3 (CU 25) and MU 7 (CU 42/54) (Fig. 4.38); these strata may represent builder's trenches on each side of CU 5. The cultural materials recovered from these strata include the whole range of ceramics recovered from CU 29 and 32 in the other manual units, i.e., tin glazed, slipware, creamware, Westerwald, white salt-glazed, and various unidentified redwares (Table 4.4). A single sherd of whiteware in CU 42 (MU 7), directly against the wall (CU 5), may in fact offer the best terminus post quem for this feature. As in the case of the stone feature CU 53 (grids g–h) (see Fig. 4.30), it was not possible to identify a certain builder's trench for CU 5, in large part because these features were built on top of and into rich cultural deposits; thus the backfill around the features consisted largely of artifacts from periods earlier than the actual construction. It should be noted that in MU 5 and 7, the typical CU 29 stratum was found to underlie CU 15, as in the other manual units excavated in Trench C (Fig. 4.38). Thus it is clear that the same stratigraphic sequence can be found in grids d, g–h, and i–j (Fig. 4.30).

Discussion: The Paddy's Alley Backlot Site

This 19th-century building lot, the "Storage" lot, was a principal target of the Phase II testing. The Sanborn atlases indicated that the "Storage" building did not have a basement and so it was hoped that excavation below the level of the 19th-century structure would reveal evidence of earlier remains relating to the category of archaeological resources termed "settlement and structures" in the Phase I research design (Elia and Seasholes 1989: 23–27). Intact archaeological resources dating from the earliest periods of Boston's history (Plantation, Colonial, and Early Republic [1620-1830]) are considered significant because they are extremely rare in Boston and because they have the potential to provide important information on a wide range of issues, including architecture, use of space, modifications of the environment, domestic lifeways, social and ethnic status, foodways, and other aspects of early life in Boston.

Test excavations below the level of the "Storage" building identified intact stratified deposits dating from the late 17th century to around 1730–1740. These deposits were found to extend throughout the length of the excavated area below the building in an area measuring roughly 30 ft north–south by 15 ft east–west. The general absence of white salt glazed stoneware, creamware, and pearlware from the early strata points to an end date around 1730–1740 for these levels. In addition, the abundance of ceramics such as tin glazed, Westerwald, and North Devon suggests that the beginning date for these strata is probably in the last decades of the 17th century. A small number of later artifacts, e.g., creamware, pearlware, and machine-cut nails, do appear in these levels (especially in CU 15, the uppermost level; see Table 4.3), but these represent a small proportion of the artifacts, and can be regarded as intrusive.

The abundant artifactual and organic assemblage includes a wide range of domestic and imported ceramic types, bottle and window glass, metal, bone, stone, shell, and other objects; together, the assemblage reflects a series of essentially domestic deposits. Although there were not many architectural and other features in the excavated area, several were found, including a stone wall or foundation (CU 53), a possible refuse pit (CU 59), a probable post mold (CU 61), and an unidentified round feature (CU 60) (see Figs. 4.30 and 4.37). The discovery of four features in the limited area tested with manual excavation units suggests the likelihood that more features exist in this area.

The artifact assemblage from the CU 15/29/32 strata is rich both in quantity and in the variety of materials represented. Both imported and domestic artifacts are well represented (see Table 4.3). The earthenware ceramics include North Devon gravel-tempered wares (Fig. 4.39), a variety of sgrafitto types (Fig. 4.40 A,I), as well as dotted, combed, and trailed slipwares (Fig. 4.40 B–H,J). Tin-glazed earthenwares (delft), mostly blue and white, are also common (Figs. 4.41, 4.42). The redware assemblage consists of numerous utilitarian forms, such as mugs, crocks, and pans (Figs. 4.43, 4.44, 4.45); most are doubtless of local origin and can profitably be compared with the redwares recently excavated in Charlestown.

Stoneware vessels from CU 15/29/32 are chiefly of imported origin. Westerwald (Rhenish) stoneware is common (Figs. 4.46, 4.47); some of the Westerwald-type stonewares appear to be somewhat debased and may in fact have been produced on the domestic market. Other stoneware types represented in the assemblage include Nottingham (Fig. 4.48), Brown Frechen (Fig. 4.49 E,F), and a small number of white salt-glazed (Fig. 4.49 A–D).

In addition to the ceramics, CU 15/29/32 also produced numerous examples of glass, including bottles (Figs. 4.50, 4.51 C–F) and mold-blown vessels, such as stemware (Fig. 4.51 G,H). Kaolin pipes (Fig. 4.52) and miscellaneous artifacts such as combs (Fig. 4.53 A,D), a key (Fig. 4.53 E), and flint (Fig. 4.53 F–I) round out the artifact assemblage. Of note is the large quantity of flint (87) recovered in CU 32 (see Table 4.3). Included in the assemblage are several gunflints, strike-a-lights, and flakes, as well as unmodified flint pebbles and fractured nodules.

The historical research conducted for the Phase II investigation indicates that the "Storage" building lot, which was ca. 30 ft wide, was originally part of two 17th-century lots. The east section, ca. 15 feet wide, was part of a large estate lot that fronted on North Street until 1795, when it was separated from that lot and combined with the narrow lot to the west that became the eastern part of the later "Storage" building lot. It is important to note that most of the testing in Trench C was located in the east half of the "Storage" lot, the part that was the back part of the large estate lot. The historical evidence obtained to date indicates that few, if any, buildings were located on this, the back end of the estate lot, during the 17th and 18th centuries.

The historical research also showed that the west half of the "Storage" building lot, also 15 ft wide, was part of a 17th-century lot. This lot was originally 48 ft wide but it was partitioned in 1728 and the part that became the west half of the "Storage" lot was set off as a separate lot only about 17 ft wide. In 1728 this narrow lot contained the barn of the former larger houselot, but by 1730 the barn had been replaced by a two-family house. The narrow western lot was joined to the east half of the "Storage" lot in 1795, forming the lot that would remain until the 1950s. In 1798, the combined lot had a barn but apparently not a dwelling house.

The archaeological testing in the "Storage" lot was conducted primarily in the east half of the lot, i.e. in the area between the east wall of the "Storage" building (grids c, g, i; see Fig. 4.30) and the series of brick features (CU 10–13, 22 in grids d/h) that probably marks a center row of interior supports for the 19th-century building. Most of the west half of the lot, i.e. the one with the early 18th-century barn and house, remains unexcavated in an area ca. 15 ft west of the west edge of Trench C.

The artifact assemblage, which, as we have seen, can be securely dated to the period between the end of the 17th century and ca. 1740, coincides with the period of intensive residential occupation recorded for the west lot. One may speculate whether the materials recovered from the east half of the "Storage" lot actually derive from the occupation and use of the west half of the lot; we have already seen that the east half belonged to the back end of a large estate, and it may be that the materials recovered represent an encroachment into that lot from the occupants of the very narrow (17 ft wide) houselot adjoining to the west. In any case, the fact that the west (unexcavated) half of the "Storage" lot contained the most intensive occupation and use (barn and dwelling house) makes it likely that that portion of the lot contains additional features and structural remains dating to that occupation.

Preliminary pollen analysis was conducted on samples from MU 13 (Appendix B). A continuous column sample, containing 17 samples in all, was extracted from the west wall of the pit (Fig. 4.26), through the early levels (CU 15/29/32) and into the underlying unexcavated clay (CU 30). Three distinct pollen strata were observed. The lowest (Zone 3; samples 1–4) coincided with the clay subsoil (CU 30) (Fig. B.4). This stratum was dominated by arboreal pollen, contained no definite Eurasian pollen types, and probably represents the forested prehistoric landscape prior to colonial settlement.

The second pollen zone (Zone 2, samples 5–10/12) represents a naturally developed soil profile dominated by Eurasian pollen types. The profile exhibited relatively high concentrations of pine, hazel, hickory, ash, goosefoot, and dandelion, as well as increasing grass pollen and decreasing ragweed-type frequencies. This zone corresponds with the late 17/early 18th-century deposits (CU 28/32). The uppermost pollen zone (Zone 3, samples 10/12–17), corresponding with CU 15, shows lower pine, hazel, ash, and general arboreal pollen. In addition, pollen concentrations decrease and there is a marked degradation in the pollen grains. These factors may indicated that the uppermost zone (CU 15) had been turned over and aerated for some time; the pollen profile is not inconsistent with a garden-use for the layer.

To summarize, the preliminary pollen analysis has shown that a more complete pollen study in a Phase III study would contribute significantly to our understanding of the past environmental conditions at NE03 Trench C. The analysis conducted to date has already identified an original prehistoric landscape and two levels of historical settlement. Also of significance, the pollen study showed that Zone 2 (CU 28/32) was of natural development; this fact confirms the archaeological observations, which suggested that the early levels were an occupation sequence rather than a fill sequence.

A preliminary faunal analysis was conducted on the recovered bones from the early strata in Trench C (CU 15/29/32/43) (see Appendix A). The preservation conditions for faunal material in these strata appear to have been excellent and allowed a large proportion of the assemblage to be identified. The faunal assemblage from Trench C consisted of 2,031 fragments (42.6% of the Phase II total); the deposits examined contained almost 40% of the total faunal material recovered from Trench C.

The major domestic food mammals—cow, pig, and sheep/goat—are all well represented, and deer bones were also identified in the sample. Four different birds are represented: turkey, chicken, pigeon or dove, and an unidentified perching bird.

Although only a preliminary faunal analysis was conducted during the Phase II project, the potential value of the faunal material is clear. Many aspects of the food supply and distribution system in Boston are still relatively poorly known. Archaeological materials, especially faunal remains, offer one of the best possible sources of information about this complex issue. Analysis of faunal material can provide information about changes in the environment of Boston, the use of non-domestic food sources, and historical husbandry practices. In addition, this material clearly has the potential to broaden our understanding of the market system for food in Colonial Boston and to provide specific information about butchery practices and food preparation and consumption in an urban environment. Any Phase III data recovery of this site should include a strong component of faunal analysis.

In summary, the analysis to date has shown that the deposits dating to the late 17th and early 18th centuries (especially CU 15, 29, 32) exhibit archaeological integrity and are considered significant archaeological resources. For the sake of convenience, this site has been termed the Paddy's Alley Backlot Site. The site is considered potentially eligible for the National Register of Historic Places under Criteria C and D. Under Criterion C, the houselot is a representative example of the intensification of residential development during the early 18th century in the North End, as the original large 17th-century lots were being split up into increasingly smaller (in our case, 17 ft wide) houselots. The remains below the "Storage" lot represent a unique survival of this process on the Shawmut Peninsula. Under Criterion D, the resources are likely to yield "important information" (36 CFR Part 60.6) about resources in the category "settlement and structures." The ongoing Phase II analysis is developing research questions that can be addressed by excavations at this site; suggested areas of inquiry are outlined in the Phase I research design (Elia and Seasholes 1989: 23–27).

Recommendation

Phase III archaeological investigations (data recovery) are recommended for the Paddy's Alley Backlot Site. The boundaries of this site generally coincide with the 19th-century "Storage" building as shown on the 1929 Sanborn atlas (see Fig. 4.28); this lot measured 93 x 30 ft (2790 sq ft). The area available for Phase III excavations in this lot, excluding known disturbances from Central Artery ramp and utility construction, amounts to ca. 1900 sq ft; the recommended area for Phase III excavations is shown in Figure 4.54.

The targeted archaeological resources are located primarily in the west half of the "Storage" building lot, which was originally part of a larger 17th-century houselot. In 1721, this lot was subdivided and measured 114 ft on the east, 106 ft on the west, 21 ft on the north, and 17 ft along Paddy's Alley on the south. This lot contained approximately 2100 sq ft., of which approximately 650 sq ft (31%) is available for Phase III excavations in the "Storage" building lot. The remaining 1450 sq ft of the 1721 houselot were destroyed by the construction of the Central Artery ramps (ca. 750 sq ft; see Fig.

4.54) or by the erection of the 19th-century building (with basement) that was built next to the "Storage" building on the west (ca. 700 sq ft; see Fig. 4.28).

Although only some 31% of the west half of the "Storage" building lot is available for Phase III data recovery, the test excavations indicate the likelihood that an abundance of late 17th- and early 18th-century artifacts, deposits, and features have survived in the area that remains accessible for excavation. In addition, as noted above in the description of the results of testing, it is possible that the occupants of the west half of the "Storage" lot encroached upon the adjoining lot to the east. This lot, comprising the east half of the later "Storage" lot, formed the back end of a large estate that fronted on North Street until 1795. Phase II testing in this lot revealed abundant evidence of late 17th- and early 18th-century materials, which may in fact derive from the narrow Paddy's Alley Backlot Site which adjoined to the west. For this reason, it is recommended that the Phase III data recovery area include accessible portions of the entire "Storage" building lot (see Fig. 4.54).

Open lot north of "Stove Ware Ho."

Historical Background

The northeast corner of Trench C (part of grid k) is in what is here called the open lot north of "Stove Ware Ho." (see Fig. 4.28). This lot was originally the back part of a larger parcel that fronted on the Town Cove and contained a house by 1663 (Bowditch 5:110); after Ann (North) Street was laid out along the shoreline in the 17th century, the parcel was then bounded east by that street. In 1716 this parcel was sold to a joiner and was still described as containing a house (S.D. 31:6), but the dwelling was probably located close to the street and not on the back part that became the "open lot." In 1743 this back part was separated from the Ann Street parcel and was sold to Philip Viscount (S.D. 70:55), a mariner who owned the abutting lot that fronted on Cross Street (part of the lot labeled "Iron Ware Ho." in Figure 4.28). In 1769 Viscount sold his houselot in Cross Street, still containing the "open lot," to Thomas Capron, a tailor (S.D. 115:141). Capron, in turn, in 1772 sold the southwestern part of his property, the part with the "open lot," to Benjamin Homer, who owned the lot directly north fronting on Cross Street (the south half of the Cross Street "Storage" lot in Figure 4.28). At that time this backlot measured 50 feet 6 inches on the west, 18 feet 6 inches on the north, 50 feet 5 inches on the east, and 16 feet 6 inches on the south (S.D. 172:253).

Homer died in 1777 and in his inventory this parcel was included with the "house and land in Cross Street" valued at £200. It was then sold in 1784 to a Samuel White (S.D. 142:204) and in 1794 to Daniel Gealey, a trader (S.D. 178:275). Gealey still owned it in 1798 at which time the entire property was described in the Direct Tax as being a parcel of 2106 square feet on Cross Street, with a wooden dwelling of 1260 square feet having two stories and 22 windows, the whole valued at $1600 (Boston Record Commissioners 1890: 215).

Gealey died in 1804 and the property was then sold to a Jason Wilson (S.D. 214:67), who owned it until his death in 1834; his inventory described the entire parcel, which still included the open lot, as a "wooden dwelling house and land" in Cross Street valued at $2500. In 1850, when all of Wilson's heirs finally sold the parcel to Moses Williams, it apparently had no structures on it, as shown on the Slatter and Callan map of 1852 (see Fig. 4.33). By 1867, however, a four-story building had been built covering almost the entire lot (see Fig. 4.33), but the southernmost section, the part included in Trench C, had been left open as a light well (see Fig. 4.33). This light well remained open throughout the entire subsequent history of the parcel; it had windows opening onto it from both the "Stove Ware Ho." building and the building on Cross Street, which was apparently also commercial (see Figs. 4.28, 4.33 and 4.55). In the mid-1950s all the abutting buildings were demolished for the construction of the Central Artery.

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In sum, the "open lot" was a small parcel that was associated with different historic lots. From ca. 1650 to 1743 it was the back part of a lot that fronted on North Street, from 1743 to 1772 the back part of one lot that fronted on Cross Street (the "Iron Ware Ho." lot in Figure 4.28), and from 1772 to the 1950s the back part of another (the Cross Street "Storage" lot in Figure 4.28). Because the lot was always in a back corner of the historic lots with which it was associated, it was a likely location for privies or other features (e.g., storage sheds, trash pits). When a building was built on the Cross Street lot sometime between 1852 and 1867, this parcel was left open as a light well and it remained open until the surrounding buildings were demolished in the 1950s. During its existence as a light well, the open lot was probably used for trash disposal.

Results of Testing

1. Nineteenth-Century Remains

The northeast corner of grid k, immediately north of the "jog" in the northwest corner of the "Stove Ware Ho." building (CU 44), is located in the southwestern corner of what was formerly an open lot (see Fig. 4.30). The Sanborn 1929 atlas (see Fig. 4.28) shows this parcel as an unnamed lot surrounded by four buildings: the "Stove Ware Ho." to the south, the "Wagon Ho." to the west, a "Storage" building to the north, and an "Iron Ware Ho." to the east. Only a small area of this open lot, which measured ca. 7 x 6 ft, was located within grid k, but testing here produced early cultural deposits, including a 19th-century privy or similar feature and a portion of a probable 18th-century feature. These remains are described in detail below.

2. Earlier Remains

a. *MU 10 (Grid k)*

Testing in the small area of the "open lot" produced evidence of a privy or similar feature filled with late 18th/early 19th-century material, as well a portion of a probable 18th-century feature. These areas were explored in MU 10, a 6 x 3 ft excavation unit placed in the northeast corner of grid k (Fig. 4.30).

Testing exposed a northwest corner "jog" of the "Stove Ware Ho." building along the eastern edge of grids i and k (see Figs. 4.28 and 4.30). This corner included a substantial granite block foundation (CU 44) and a section of interior brick paving (CU 46). It should be noted that immediately adjoining CU 44 to the east was a feature composed of small stones (CU 62). It is not clear if this feature represents an integral part of the foundation of the "Stove Ware Ho." building; it may be an exterior paving for it, but, given the fact that CU 44 and CU 62 are on a common lot line, CU 62 may represent a portion of a structure or feature belonging to the open lot rather than to the "Stove Ware Ho." lot.

In MU 10, a dark grayish brown sandy soil (CU 49) underlay the sand bedding for the asphalt (CU 3) (Fig. 4.56). This stratum, which was 0.4 ft thick, contained a total of 94 ceramic sherds. These included 8 tin glazed, 1 slipware, 30 creamware, 29 pearlware, 3 whiteware, 6 porcelain, and 17 unidentified earthenware and stoneware sherds. At the base of CU 49, two distinct strata were discovered, separated by what proved to be a wooden board running east-west. The stratum in the southern half of MU 10 was labeled 51; that in the northern half was labelled CU 52 (Figs. 4.56 and 4.57). CU 52 proved to be the artifact-rich fill of a privy or similar feature, while CU 51 is probably a portion of a feature dating to the first half of the 18th century. These features are described below.

(1) Privy-type Feature in MU 10 (CU 52 and 56)

The wooden board (CU 56) formed part of the southern edge of a privy or similar feature that extended to the north. The feature continued into the unexcavated scarps to the north and east; the western boundary of the feature lay outside the limits of MU 10 and could not be defined (Fig. 4.30). Traces of wood were found south of the large board that formed a separation between the feature's fill (CU 52) and CU 51, the adjacent deposit in MU 10 (Figs. 4.56 and 4.57). The large plank had a preserved length of ca. 4.5 feet. The plank was placed with its side face set into the ground vertically, so as to form part of the side wall of the feature.

Once it became clear that CU 52 was a rich artifact-bearing feature, the deposit was sampled with a 3 x 1.5 ft sub-unit located in the east half of MU 10, CU 52. Within the sub-unit, artifacts were recovered to a depth of 0.8 ft. At that point, hand coring indicated that the feature continued at least another 1.5 ft in depth and it was decided to discontinue sampling of the feature. Even in the small area sampled, however, an abundance of artifacts was recovered, including ceramics, bottle and window glass, flint nodules, metal, bone, numerous leather shoes and shoe parts, wood, and pipe stems (Table 4.5). The ceramics included 135 fragments, including 36 creamware and 41 pearlware (Fig. 4.58); also present was a small amount of tin glazed and North Devon earthenwares and a few fragments of stoneware, redware and porcelain (Figs. 4.59 and 4.60). Judging from the predominance of creamware and pearlware, a date around the end of the 18th century or the early 19th century is indicated for the feature.

(2) CU 51 (MU 10 in grid k)

Equally impressive was the rich cultural deposit located in the southern half of MU 10, south of the "privy" feature (CU 52, 56). This consisted of a deposit of very dark gray silty sand and clay, labeled CU 51 (Figs. 4.30, 4.56 and 4.57). This stratum was ca. 1.2 ft thick and contained a rich assemblage of primarily early 18th-century (and perhaps earlier) artifacts. The ceramic assemblage comprised a total of 494 sherds, including a remarkable 231 Westerwald, 9 Brown Frechen, 4 Nottingham, 7 white salt-glazed, 61 tin glazed, 29 slipware (including combed and dotted), 8 North Devon, 4 pearlware, 124 unidentified earthenware, including a probable high quantity of locally manufactured redware; and 4 porcelain (Figs. 4.61, 4.62 and 4.63; Table 4.5). The artifacts from CU 51 also included a large number of other material classes, including window and bottle glass, metal, bone, shell, and flint nodules (Fig. 4.64; Table 4.5). Below CU 51, an olive clay (CU 57) was exposed but not excavated.

The CU 51 soil stratum was similar in color, consistency, and texture to CU 29 and CU 32, which were discovered in the manual units below the "Storage" building (see Fig. 4.35). The artifact assemblage is strikingly similar in terms of material classes and dates; only the quantity of artifacts is dissimilar, with CU 51 containing far more artifacts. In fact, the density of artifacts in CU 51 strongly suggests that this deposit, dating to the late 17th/early 18th century, represents a feature, perhaps a filled privy or midden deposit, although no trace of a built structure was identified. Such a possibility is enhanced by the location of CU 51 in the corner of a former lot; as the adjoining feature CU 52/56 demonstrates, such a location was a suitable spot for a privy-type feature in the late 18th/early 19th century and may also have been considered such during the first half of the 18th century.

Discussion: The Cross Street Backlot Site

Only a small portion of this lot was sampled during the testing (northeast corner of grid k), but two interesting features were discovered; an early 19th-century privy-type feature (CU 52/56) and an early 18th-century midden or trash deposit (CU 51). Phase II historical research showed that this open lot—here termed the Cross Street Backlot Site—was originally part of various 17th-century houselots that fronted on North and Cross streets. In 1772, when there is evidence for the size of the lot, the parcel measured 16 feet on the south (i.e., in the area covered by Trench C) and 50 feet on the west. The lot that remained throughout the 19th century until the 1950s measured ca. 16 x 17 ft.; thus approximately one third of the 1772 backlot is represented by the open lot. Because the open lot was associated with three different houselots in the 18th century, it is not clear with which one the midden/trash deposit in CU 51 is associated. The early 19th-century privy feature (CU 52/56) probably belonged to the period when the lot was owned by Jason Wilson (1804–1834).

In assessing the potential significance of the open lot, it is important to keep in mind that the lot remained a back portion of the lots throughout its history, that portions of two artifact-rich features were located on the lot in the very small amount of area sampled during the Phase II testing, and that the lot remained open until the 1950s. It is certainly highly likely that additional features exist on the lot, if not remains of structures. In addition, the early 18th-century deposit (CU 51) is basically of the same period as the deposits under the "Storage" building. Additional recovery of this feature would allow a very useful comparison with the remains from the "Storage" building lot. It is also very possible that earlier features or deposits dating to the 17th century survive in this lot.

Based on this information and the consideration that the open lot represents one of the few parcels of land that escaped the intensive building development that covered the North End during the 19th and 20th centuries, the archaeological resources on the lot dating from the Plantation through Federal periods (1630–1830) are considered highly significant. The site is considered potentially eligible for inclusion in the National Register of Historic Places under Criteria C and D. Like the "Storage" building lot, the site is considered to be representative of resources of the "settlement and structures" category (see Elia and Seasholes 1989: 23–27); in addition, the lot contains remains not only of the Colonial Period (early 18th century), but also of the Early Republic Period, which are not represented on the "Storage" lot.

Recommendation

It is recommended that Phase III archaeological investigations (data recovery) be conducted at the Cross Street Backlot in order to locate and sample archaeological resources dating from the Plantation through Early Republic periods. In addition, the privy feature (CU 52/56) should be excavated and an attempt should be made to uncover surviving portions of the 18th-century feature (CU 51). The area recommended for data recovery coincides with the boundaries of the open lot as shown on the 1929 Sanborn map (see Fig. 4.28 and 4.54).

"Tin Shop" lot

Historical Background

The "Tin Shop" lot was part of the same 17th-to-19th century estate that contained the eastern part of the "Storage" building lot, and for that reason its history is very much the same as that part of the "Storage" lot (see above), that is, it may have been used for gardens, trash disposal, privies, outbuildings, or the like (Figs. 4.28 and 4.31). In 1798 the "Tin Shop" lot was clearly part of the parcel that was owned by Isaac White and contained a "barn of wood" (see above and Fig. 4.31). This lot may not have been separated from the estate and set off as a distinct parcel until sometime between 1852 and 1867, for a map of the former year shows it as an empty part of the estate, while the atlas for the latter date shows it a separate parcel containing a one-story building (see Fig. 4.33). This one-story building remained and had various uses such as storage and a tin shop (see Figs. 4.33 and 4.55) until it was taken down in the 1950s for the construction of the Central Artery.

Results of Testing

1. Nineteenth-Century Remains

The remains of the stone foundation of the back (north) end of a 19th-century brick structure were uncovered in grids a–c (see Figs. 4.30 and 4.66). This building can be securely identified, on the basis of both the cartographic and archaeological evidence, with the one-story brick structure marked as "Tin Shop" on the 1929 Sanborn atlas (see Fig. 4.28). The excavated foundation (CU 19), which included all of the back (north), as well as part of the side (east and west) walls, measured 1.5 ft in width, and consisted of large cut granite blocks set in mortar (Fig. 4.30). The building enclosed by this foundation was ca. 15.75 ft wide; the exterior measurement between east and west walls was ca. 18.5 ft.

The interior of the "Tin Shop" was investigated with Deep Test 4, a combination of backhoe and manual excavation (Figs. 4.30 and 4.65). Below CU 3, the sand bedding for the asphalt parking lot (CU 1), excavation revealed CU 20, a ca. 1 ft thick layer of wood, roofing shingles, and rubble—clearly part of a destruction stratum, probably from the roof of the "Tin Shop." Beneath CU 20 was CU 36, a second demolition layer consisting chiefly of brick rubble and debris. Both CU 20 and 36 were removed with the backhoe. Below CU 36 was a thin (ca. 0. 7 ft) stratum of black, organic soil (CU 37) containing whiteware and pearlware. This stratum may represent a floor level or ground surface of the "Tin Shop" building. Underlying CU 37 was a stratum (ca. 1.6 ft thick) of redeposited blue clay (CU 38), which in turn overlay a series of wood timbers (CU 39), which ran north–south and extended below the bottom of the back (north) wall of the building (CU 19). The timbers apparently formed a rough level or cribbing upon which the building foundation was built. Underlying the timbers was CU 40, an olive clay. CU 40 was the same as CU 30 elsewhere in Trench C (e.g., in the manual units within the "Storage" building). The bottom of the excavation in Deep Test 4 was ca. 5 ft below the top of the building's foundation (CU 19).

Discussion

Only the back (north) end of this 19th-century brick structure was exposed during the testing. The test excavations revealed a thin stratum (CU 37) of 19th-century artifacts, possibly associated with the floor of the building, but no earlier remains were encountered. Substantial disturbance from the construction of the foundation of the building was also discovered.

Although it is possible to excavate additional areas within this building lot, east of grid square c, it is unlikely that such excavations would reveal deposits earlier than the construction of the building, which probably took place sometime in the 1830s or 1840s. The historical research indicates that this lot was the back portion of a large estate that fronted on North Street. No evidence was found to suggest that any structures were located on this part of the lot. The "Tin Shop" lot was detached from the large estate lot in 1795, when it was combined with the two narrow lots to the west.

The archaeological remains of the "Tin House" are not considered to be significant or to warrant further excavation.

Recommendation

No additional archaeological work is recommended for this lot.

"Wagon Ho." lot

Historical Background

The northwest corner of Trench C covers the southeast corner of what is here called the "Wagon Ho." lot, which fronted on Hanover (formerly Middle) Street (see Fig. 4.28). This lot was actually the southern half of a larger historic parcel (Fig. 4.67) that apparently contained a house as early as 1660 (S.D. 3:505), although the exact location of this structure is not clear. The lot continued to be developed in the 17th and 18th centuries; a 1751 deed, for example, describes it as having "the buildings thereon...with the yard and garden" (S.D. 88:19), and one in 1784 cites a "brick mansion house with the barn, outhouses, yard, garden, and appurtenances" (S.D. 141:202). In 1795 the entire parcel was sold to William Whittemore, a cardmaker (S.D. 180:138, 139), and the following year he sold off the north half of the property, keeping the southern half (which included the northwest portion of Trench C) for himself (Fig. 4.67). The deed gave the northern abuttor the right to have his pump supplied by suction from the pump in Whittemore's lot and to discharge his drain into the drain in the southern lot, which in turn led to the Mill Creek (S.D. 183:191). The Direct Tax of 1798 described Whittemore's property as being 5400 square feet and containing brick and wooden buildings: one house of 1070 square feet with three stories and 38 windows, one of 504 square feet with two stories, and one of 360 square feet and one story; the entire valued at $3000 (Boston Record Commissioners 1890:229). In 1799, when Whittemore sold the property, it was described as containing a brick dwelling house, a stable, and outhouses, and the deed makes clear that the brick house was located on the 12-foot jog in the southern boundary line (Fig. 4.67; S.D. 193:34).

By 1852 the Slatter and Callan map indicates that a structure covered the part of the "Wagon Ho." lot that contained the northwest corner of Trench C; the 1867 Sanborn indicates that this was a four-story building occupied by a carpenter, but the 1885 Sanborn shows it as three stories and labels it "Old Vac" (see Fig. 4.33). Both the Sanborns also indicate that there was a narrow open triangle between the structures in the "Storage" Building lot and that in the "Wagon Ho." lot. By 1895 the earlier building in the "Wagon Ho." lot had apparently been replaced by one covering the entire lot that is labeled "Nickel Museum;" in 1909 this building was the "Salvation Army Hotel" (Figs. 4.33 and 4.55). By 1912 the lot had evidently been divided again and there was a smaller structure on the "Wagon Ho." lot (Fig. 4.55); this is what is shown as the one-story "Wagon Ho." on the 1929 atlas plate (see Fig. 4.28). The building was still standing in 1938 but by 1946 it had apparently been taken down (Fig. 4.55).

To summarize, the "Wagon Ho." lot, which contains the northwest corner of Trench C, was an irregularly-shaped lot that was reached from Hanover Street. This lot had a number of structures on it in the 17th and 18th centuries; in 1796 the lot was divided and in 1798 the southern part, the "Wagon Ho." lot, still contained three houses. By 1852 a building had been erected over most of the lot; this was apparently replaced with another ca. 1895 and yet another ca. 1912. This last building remained until ca. 1946.

The land use history of the "Wagon Ho." lot indicates that in the 17th and 18th centuries its development was typical of many lots in the central part of the densely settled North End. It was originally a rather large lot but became increasingly subdivided as it was transferred through a series of owners including an inkeeper, a merchant, and a gentleman. By the mid–18th century the lot contained a large brick residence, a barn, outbuildings, a yard, and a garden, and by the end of the century the lot also had at least one other residence and an underground system of pipes connecting various pumps and drains. Trench C was in a back corner of this lot, however, so in that area the land may have been used for privies, trash disposal and/or gardens rather than for the more concentrated residential and drainage activities that were located closer to Hanover Street. In the 19th century the use of the "Wagon Ho." lot was less typical of the North End, perhaps because it was an interior lot with limited access to the street. Instead of the brick buildings with basements that were erected over most of the North End, the "Wagon Ho." lot had a wooden building that was used variously as a carpenter's shop, a museum, a hotel, and a wagon storehouse.

Results of Testing

1. Nineteenth-Century Remains

The testing in grids k and l was in the southeast corner of the "Wagon Ho" lot in 1929 (see Figs. 4.28 and 4.30). This building was contiguous with the "Storage" building. Its south wall must have abutted CU 5, although no evidence of a separate wall or foundation was found immediately north of CU 5 (Fig. 4.30). Its east wall would have been on the line of a northerly extension of the east wall of the "Storage" building, although again no evidence of a wall was found there during the testing. Although two shallow soil strata (CU 7 and 8) were sampled below the sand bedding (CU 3) for the asphalt, the artifacts from these layers were mixed (18th and 19th centuries) and none of the remains could be attributed with certainty to the building that occupied this site in the 19th century.

2. Earlier Remains (MU 1 and 2, Deep Test 2)

In grid k, the removal of CU 3, the sand bedding for the asphalt surface, revealed a shallow dark gray sandy layer (CU 4) that contained a mixture of ceramic types, ranging from tin glazed earthenwares and slipware to pearlware (Fig. 4.30). Below this layer, two distinct strata were identified in grid l. In the western section of the grid square, a very dark gray clay mixed with olive clay (CU 7) was found; this stratum contained a mixture of 18th- and 19th-century ceramic types, including Westerwald, creamware, pearlware, and whiteware. In the eastern part of grid l, an olive gray compact clay was found (CU 8).

In order to investigate the nature and extent of these strata, two manual excavation units were laid out in grid l (see Fig. 4.30). MU 1, a 2 x 2 ft unit, was placed in the northwest corner of the grid; excavation in MU 1 began in CU 7. MU 2, also 2 x 2 ft, was laid out in the northeast corner of grid l and began with stratum CU 8. In MU 1, CU 8 was found to underlie CU 7. CU 8 in both manual units contained a mixture of ceramic types, including white salt-glazed stoneware, slipware, and pearlware. Underlying CU 8 was found a stratum of olive clay (CU 16/26). The backhoe removed CU 16/26 and revealed a layer of blue clay (CU 28). This clay gave off a distinct odor of petroleum.

At this point in the testing, due to the mixed and potentially contaminated nature of the soil strata in grid l, it was decided to excavate a backhoe trench to investigate the nature of subsurface conditions in this part of Trench C. Deep Test 2, a ca. 10 x 2 ft backhoe trench, was accordingly dug just north of CU 5 along the north edge of grid square j (see Fig. 4.30). As in grid l, the blue clay (CU 28) was encountered beneath the olive clay (CU 26). In the large trench opened up by the backhoe, the petroleum-type fumes were very noticeable and it was decided to backfill the trench due to the apparent contamination. Deep Test 2 reached to a depth of ca. 5 ft below the surface of the parking lot before the unit was backfilled. Soil samples of CU 28 were taken for subsequent testing.

Discussion

The Phase II testing revealed mixed deposits in this part of Trench C. Of special concern was the presence of apparent contamination of the blue clay stratum in this area (grid l), apparently from petroleum-type products. No significant archaeological deposits were identified.

Recommendation

No additional archaeological excavation is recommended for this lot. It is recommended, however, that the soil sample from the blue clay stratum (CU 28) be tested for contaminants.

"Stove Ware Ho." lot

Historical Background

A small part of Trench C in grids a, b, g, i, and k was in the "Stove Ware Ho." lot (see Figs. 4.28 and 4.30). This lot, like the "Tin Shop" and eastern half of the "Storage" building lots, was part of a large 17th–19th century estate that fronted on North Street (see Historical Background of "Storage" building lot above). This estate had many buildings in the 18th century, including a stone dwelling and four brick houses at the beginning of the century and three brick houses and one of wood and rough cast in 1798. In the early 19th century, one of the large brick dwellings became a tavern and later a stagecoach stop. None of these developments, however, probably directly affected Trench C, which was on the western lot line.

The 1852 map shows the "Stove Ware Ho." lot empty, but by 1867 it contained a three-story building (see Fig. 4.33). This building, which by 1895 is shown as having a basement, had various uses and remained until the 1950s when it was demolished for the construction of the Central Artery (see Figs. 4.33 and 4.55).

Results of Testing

1. Nineteenth-century Remains

According to the Sanborn atlases, the "Stove Ware Ho." lot had a basement (Fig. 4.28). Deep Test 1 (ca. 10 x 3 ft) was excavated north of CU 19 in grids a–c in order to investigate this structure (Fig. 4.30). Below the sand bedding (CU 3) for the asphalt paving (CU 1) was a demolition layer of brick rubble (CU 18), which overlay two strata. The first, a mottled yellow-brown and olive sand (CU 23), sloped down in the trench from grid a to grid b; at its deepest point in grid b, this layer reached a depth of ca. 4.5 ft below the surface of the trench. This layer was above a mottled blue and black organic clay (CU 24). The east profile of Deep Test 1 contained a deep deposit of building rubble and granite building blocks, evidently representing a portion of a filled basement.

In grid squares i–k, the northwest corner of the building was exposed (see Fig. 4.30). In this area there is a "jog" in the north wall of the "Stove Ware Ho." building, north of the junction of that wall and CU 5, the north (back) wall of the "Storage" building (Figs. 4.28 and 4.30). A portion of the granite block foundation (CU 44) of this "jog" was uncovered. Part of the interior of this corner of the building was also exposed; this area consisted of a brick floor paving (CU 46), as well as a small circular feature of unknown function (CU 47).

Apart from exposing the floor level of this corner of the building, no additional excavation took place in the area of the "Stove Ware Ho." building.

Discussion

The "Stove Ware Ho." was a large building that contained a basement. This building was not targeted for testing in the Phase II investigation. The testing confirmed the presence of the basement in the eastern part of the trench, although a ground-level paving belonging to this building and found in grids i/k suggests that at least a portion of the structure did not contain a basement. This area, however, is in close proximity to disturbance from the construction of a bent for the elevated Central Artery (see Fig. 4.54).

The archaeological remains from this building lot are not considered to be significant or to warrant further excavation.

Recommendation

No additional archaeological investigations are recommended for this lot.

Summary of Recommendations for Trench C

The recommendations for Trench C are listed below by historic lot in terms of their potential eligibility for the National Register of Historic Places. National Register eligibility criteria are also listed.

Historic Lot (1929)	Nat'l. Reg. Eligibility	Nat'l. Reg. Criteria
1. "Storage" building	1. Yes	1. C, D
2. Open lot north of "Stove Ware Ho."	2. Yes	2. C, D
3. "Tin Shop"	3. No	3. —
4. "Wagon Ho."	4. No	4. —
5. "Stove Ware Ho."	5. No	5. —

NE03 TRENCH D

Location and Targeted Resources

Trench D is in the historic block bounded by North, Cross, Hanover, and North Centre streets (Fig. 4.1). The trench was intended to test earlier cultural deposits inside what the 19th-century atlases had indicated was a building without a basement fronting on Cross Street. Unfortunately, the building turned out to have had a basement that was not recorded on any of the historic maps.

Excavation Procedures

The excavation procedures used for Trench D were similar to the procedures used in all of the other test trenches. A 20 x 20 ft unit was laid out and gridded into 10 x 10 ft squares labelled a–d (Figure 4.29). Due to the nature of the subsurface remains, excavation in Trench D was done almost entirely by backhoe; most of the archaeological work consisted of monitoring the backhoe as it excavated and of clearing and defining the small number of features discovered (Figs. 4.68 and 4.69).

Results of Testing

Once the asphalt (CU 1) and its sand bedding (CU 2) were removed, a brick wall running east–west (CU 3) was immediately visible approximately 2.5 ft north of the south edge of the trench (Figs. 4.68 and 4.70). The top of the brick wall (CU 3) was between 0.7 ft and 1.5 ft below the grade of the modern parking lot and was ca. 2 ft wide. The wall also continued to the east and west beyond the edges of the excavated area. Excavation by backhoe north of this feature went through two slightly different rubble and brick filled demolition layers (CU 4, 5) before a cement floor (CU 6) was encountered approximately 6 ft below grade. Clearing this floor uncovered a small brick feature, ca. 1.5 ft square, with metal pipe attached to the top of it (CU 7) adjacent to, and apparently associated with, the brick wall (CU 3). The deposits south of the wall in squares a and c were only partially explored because they were known to be within a building recorded as having a basement on 19th- and 20th-century atlases.

The basement floor was broken through in two different places in order to test for the presence of earlier deposits beneath it (Fig. 4.68). In the first of these deep tests, in square b, two thin layers of wet clay (CU 10, 11) with a few artifacts (brick and wood fragments) were found between the basement floor and the underlying sterile olive and blue clay subsoil (CU 12). A second deep test through the floor in squares c and d yielded similar results with olive and brown clay (CU 10) overlying sterile olive and blue clay (CU 12).

Discussion

The brick wall (CU 3) running east–west in Trench D was apparently the sidewall of a 19th-century that had fronted onto Cross Street. The small amount of material recovered from this trench suggests that the rubble fill in the building's basement dates to the demolition that preceeded the construction of the Central Artery. Tests below the basement floor found no deposits predating the 19th-century building, validating the general testing strategy of avoiding areas known to have been disturbed by the contruction of basements.

Recommendation

The evidence of Early Industrial period (1830–1870) development recovered is not considered to be significant or eligible for inclusion in the National Register; no intact features or deposits predating the 19th-century development in this area of the block were found in Trench D. As a result, further archaeological testing in the area of NE03 Trench D is not recommended.

NE03 TRENCH E

Location and Targeted Resources

Trench E is in the historic block bounded by Hanover, Cross, North, and North Centre streets (Fig. 4.1), which was on the original Shawmut Peninsula. The trench was placed in order to test the back of one lot that opened off Hanover Street and another that fronted on Cross Street, neither of which had basements (Fig. 4.71).

Historical Background

As can be seen in Figure 4.71, the southern part of Trench E—grids b–e, part of a, and g–j—is in a lot labeled "Fr 4' Abv Rf" that opened off of Hanover Street. This lot was actually, for most of its existence, the northern part of the "Wagon Ho." lot, whose history has been discussed above (see Trench C, "Wagon Ho." lot). To review this history, the "Wagon Ho." lot was a deep, irregularly shaped lot that extended east from Hanover Street and apparently contained a house by 1660. This houselot was owned from 1660 to 1684 by an innkeeper, from 1684 to 1751 by merchants, and from 1751 to 1782 by a gentleman. By 1751 the lot had definitely attained its historic dimensions and, as quoted in the discussion of the "Wagon Ho. lot, contained buildings as well as a yard and garden (S.D. 88:19). A 1784 deed was more explicit and described the property as having a "brick mansion house with the barn, outhouses, yard, garden, and appurtenances" (S.D. 141:202). In 1795, as explained in the discussion of Trench C above, the northern part of the parcel, the part containing Trench E, was sold separately (see Fig. 4.67) and at that time was described as having a "dwelling house and other buildings" and the right to have its pump supplied "by suction underground" from the pump in the southern part of the "Wagon Ho." lot and to discharge its drain into the drain on this other lot. In this deed the part of the lot containing Tranch E was specifically described as the "bottom of the garden" (S.D. 180:139). In 1798, the north lot, the lot containing Trench E, was owned by Benjamin Bowland, a mariner, and occupied by William Mackey, a merchant. It was described as having a two-and three-story brick dwelling of 1026 square feet with 24 windows located on a lot of 1960 square feet, all valued at $3800 (Boston Record Commissioners 1890:207).

In 1805 Bowland sold the lot to Samuel Eames of Boston, another mariner (S.D. 213:148). By 1836 the property was owned by Eames' son John, who lived in Billerica (S.D. 406:87), so it was presumably occupied by a tenant. In 1844 John Eames leased the lot, described as containing a "dwelling house, buildings, stables, and sheds" to a livery stable keeper (S.D. 542:301), so the three-story livery stable shown on an 1867 map (Fig. 4.72) may have been built about this time; in any case, there was clearly a large building on the lot by 1852 (Fig. 4.72).

This building remained until the end of the nineteenth century when it was apparently replaced by a one-story structure and, for a while, combined with the structure on the lot to the south; in the 1895 atlas this combined structure was called the "Nickel Museum" (Fig. 4.72). This building apparently soon became a hotel; the 1902 atlas shows it as the "Hub Hotel" and the 1909 as the "Salvation Army Hotel" (Fig. 4.73). By 1912 the buildings on the two lots had apparently been separated again (Fig. 4.73) and remained this way until demolished in the 1950s for the construction of the Central Artery.

The northern part of Trench E was also in a lot that did not have a basement—the "Storage" lot on Cross Street in Figure 4.71. During testing, however, it was found that a utility trench had seriously disturbed this part of Trench E (see below); there is no reason, therefore, to recount the historical background of this lot.

In sum, the southern part of Trench E was in the northern part of what has been here called the "Wagon Ho." lot (Fig. 4.71). This lot was an irregularly-shaped lot that opened off of Hanover Street and in the 17th and 18th centuries contained a number of buildings. In 1796 the lot was divided and in

1798 the northern part, the lot in Trench E, had a house and other buildings as well as underground drainage features. About 1844 a large livery stable was built on the lot; it was apparently replaced at the end of the 19th century and was modified again ca. 1912. A structure remained on the lot until the 1950s.

Excavation Procedures

The location and orientation of Trench E is shown in Figures 4.29 and 4.74. A 20 x 50 ft trench was established and divided into 10 x 10 ft squares labelled a–j (Fig. 4.29). All of the grid squares, with the exception of grid square f, were at least partially excavated. A 5 x 15 ft addition to the north was also added during the course of fieldwork. The two 5 x 10 ft units were labelled k and l and the 5 x 5 ft addition was labelled m. Excavation in this trench consisted of a combination of equipment–assisted and manual excavation. Two small deep tests by backhoe were done and a total of thirteen manual units were excavated. Most of these were 3 x 3 ft units, although several other sizes were also employed. The manual units were all clustered around the features in order to expose them and recover material to aid in their interpretation.

Results of Testing

Excavation in Trench E began with removal of asphalt (CU 1) and the thin yellow-brown sand bedding layer (CU 2) in the southern half of the trench, squares a–e. A brick wall four courses wide (CU 3) running east–west was found approximately in the middle of square a (Fig. 4.75). CU 3 continued to the east and west beyond the edges of the excavated area. Two 3 x 3 ft units (MU 1, 2) were excavated bracketing this wall. MU 1 was to the south of the brick wall against the west sidewall of grid square a and went through a modern brick rubble layer (CU 4) before hitting a brick basement floor (CU 11) approximately 4 ft below grade. MU 2 was excavated through olive clay (CU 12), dark olive grey silty clay (CU 5), and down into a thin dark brown cultural level (CU 8). Below CU 8, as revealed by Deep Test 1 in the northern edge of square b, was a layer of olive clay (CU 9) overlying natural blue and olive clay deposits (CU 10) (Fig. 4.76). Artifactual material recovered from these deposits was all quite mixed; diagnostic ceramics included everything from apparently early tin glazed ware to whiteware.

As excavation moved west in grid squares c–e, a stone feature (CU 13) began to be uncovered in the northern portion of squares d and e (Figs. 4.75 and 4.76). After partial exposure it was clear that it extended into the north sidewall of grid square d. Asphalt was removed in the northern half of the trench to allow for expansion of excavation in that direction. This stone feature (CU 13), and its related components in grid squares h–j, became one of the major focal points of the work in Trench E. Nine manual units, MU 3–10 and 12, were excavated in this area, and the entire extent of CU 13 seems to have been exposed (Fig. 4.75). The artifact assemblages recovered from the deposits surrounding and associated with CU13 (CU 12, 14, 16) were somewhat mixed, but were dominated by late 18th- and early 19th-century materials, such as creamware, pearlware, and whiteware fragments.

Privy or Trashpit feature (MU 10: CU 39, 42-44, 46)

Unquestionably the most interesting deposits associated with CU 13 were the remains of an artifact-filled, wood-lined privy found in MU 10. The top of the feature was encountered approximately 2 ft below grade. This feature was capped by a thin layer of dark grey sandy silt (CU 26) (Fig. 4.77). Several layers of the dark, rich, organic fill of this feature were excavated and sampled. Immediately below the clay cap was a layer of dark brown organic silt (CU 39). A ca. 4 in thick layer of crushed mortar (CU 42) was between CU 39 and the underlying black, organic, artifact-rich matrix of CU 43. No cultural material was found. Table 4.6 lists the artifacts that were recovered from the feature.

All levels of this feature, with the exception of the mortar layer (CU 42), were very rich in artifactual material, most of whichappears to be domestic refuse, i.e., ceramics, glass bottles and drinking vessels, and faunal remains. An exceptionally large quantity of window glass was also present, butthere were few other architectural remains. The ceramics from the feature consisted primarily of creamware and pearlware, with much smaller numbers of other wares, such as English porcelain. CU 42 and CU 43 contained abouat the same proportions of creamware and pearlware (Table 4.6) and the vessel forms included plates, bowls, and chamberpots. CU 39 seemed to be of a slightly later date, with edged and transfer printed pearlwares and creamware dominating the assemblage, but the level also contained a small number of whiteware fragments, including a few sherds of brown transfer printed ware. The vessel forms identified in this strata were were very similar to those identified for CU 43 and CU 44. The date range for the materials recovered from this feature suggests a late 18th- to early 19th-century deposition period, a date thatt was consistent with other deposits associated with CU 13.

Several other features were also discovered in the northern half of Trench E (Fig. 4.75). In grid squares h and j, a brick wall (CU 21) four couses wide was found running north-south. This wall was ca. 1.5 ft wide and was exposed for a length of about 22 ft. Abutting CU 21 to the south was a small stone feature (CU 20), apparently a portion of another wall. To the east of CU 21, on line with where CU 13 abutted it to the west, there was a portion of a brick wall (CU 22) heading east. CU 22, like CU 21, was four courses wide. Immediately south of this brick wall (CU 22), between it and CU 21 was a small paved brick area (CU 37). Further to the south, in the southern portion of grid square g, two additional features were uncovered, a cluster of stones (CU 31) that appeared to be on line with the brick wall to the north (CU 21) and a square brick feature (CU 30) that appeared to be a drainage feature (Fig. 4.75).

Examination of historical information about the site while the excavation was in progress suggested that the north–south wall (CU 21) was the northern wall of the 19th-century building that had been on this site and that one of the lots that had been targeted was further to the north. As a result, a 5 x 15 ft addition to Trench E was opened to the north abutting grid squares g–i. Unfortunately, excavation in this area encountered very sterile and apparently modern sand fill layers (CU 23, 24). Excavation continued in this area (Deep Test 2) to about three feet below grade until it became obvious that this was a modern cut, potentially for an unrecorded utility, that had obliterated the northern portions of CU 20, 22, and 37.

Discussion

The brick wall running north–south (CU 21) in squares h–j appears, due to the fact that it turns to the east just past CU 22, to have been the west wall of the building to the east, with the truncated remains of CU 22 representing the south wall of the same building (Fig. 4.71). Similarly, the east-west brick wall in in grid square a (CU 3) appears to be the the southern wall of the adjacent structure to the west (Fig. 4.71). Most of the deposits sampled in Trench E seem to have been relatively mixed with material from a variety of different time periods. Although some early artifactual material was recovered, there were not any intact deposits predating the Early Republic period (1775–1830). The major component from this period was CU 13 and the associated privy in MU 10. This privy apparently dated to the late 18th or early 19th century when the lot was owned by Benjamin Bowland and Samuel Eames, mariners, and was probably occupied by tenants. CU 13 appears to have been only partially intact and was presumably what remained of the foundation of a small building on the site.

Recommendation

The results of excavation of Trench E suggest that further archaeological testing in this area would not be productive. The deposits were relatively mixed, and the most significant intact feature, the privy, dates to the Early Republic period (1775–1830). Although this feature was quite interesting, in the absence of intact associated deposits and features it is not by itself considered to be eligible for the National Register. The lot targeted in squares k–m has been destroyed to a large degree by modern construction. As a result, further archaeological testing in the area of NE03 Trench E is not recommended.

Chapter 5

Study Block TC01

Location

Study block TC01 is bounded by State Street, Atlantic Avenue, Commercial Street, and the surface road under the Central Artery (Fig. 5.1). This "block" is really a traffic island that was created when Atlantic Avenue was rerouted in the 1970s and actually overlies the historic blocks that were obliterated when the Central Artery was constructed in the 1950s (Fig. 5.1).

Targeted Resources

The trench in TC01 was placed in order to test for the remains of Long Wharf, built in 1711. This Colonial Period (1675–1775) wharf was significant in the early development of Bostons' waterfront and is an example of one type of resource specified in the Phase I report (Elia and Seasholes 1989: 27–29).

Historical Background

Study block TC01 is in the Town Cove section of Boston, an area that was originally one of the large coves of the Shawmut Peninsula (Fig. 1.1). Wharves began to be built along the shore of the cove as early as the 1640s, but none reached the TC01 area until 1711 when Long Wharf was built. This very long wharf extended a third of a mile from the foot of King (now State) Street out to deep water so that ships could load directly onto the wharf and thus bypass the use of small boats (Fig. 5.2).

The original wharf was 54 feet wide and was comprised of a 30-foot public way on the south side and 24 feet on the north that was alloted to the investors, or proprietors, for the construction of stores (warehouses). The stores were originally built of timber and were 17 ft by 20 ft, leaving a narrow 4 foot passage behind them on the north side of the wharf. They were required to be 21 1/2 feet high and to have a roof pitch of 5 feet with dormer windows (Bower et al. 1984: 8); these tall narrow warehouses are shown in a 1743 view of Boston (Fig. 5.3). (The warehouse block in which Store No. 29, the location of the test trench in TC01, was located [Fig. 5.4] is indicated by an arrow). In the 1760s the north side of the wharf was widened about 20 ft (Long Wharf Records: Plan No. 918; Bower et al. 1984: 10) and, by 1798, Store No. 29 was owned by Giles Alexander, the major property owner on Long Wharf, and was a wood building measuring 20 x 40 feet (Boston Record Commissioners 1890: 61). The appearance of the wharf shortly after this time is shown on Hales' map of 1814 (Fig. 5.5).

In the 19th century substantial changes were made to Long Wharf and the surrounding area. In the 1820s, in an effort to attract more tenants, the section that included Store No. 29 was widened 78 ft on the north and apparently some on the south as well (Fig. 5.5). An additional 20 ft was added to the north side of the warehouses and it was probably at this time that the warehouses were rebuilt of brick and basements added. In 1856 the slip on the south side between Long and Central wharves was filled and the State Street Block erected, but it was not until the 1870s, after Atlantic Avenue had been built across the waterfront, that the slip on the north side of Long Wharf was filled. During this period the Long Wharf buildings, including Store No. 29, continued to be used commercially. The section of Long Wharf that contained Store No. 29 was demolished in the 1950s for the construction of the Central Artery and the remaining Long Wharf stores west of Atlantic Avenue were taken down in 1971.

Excavation Procedures

The location of the excavation area is shown in Figure 5.6. An 8 x 24 ft trench was laid out and divided into three 8 x 8 ft grid squares labelled a–c. The test area was located at the southern end of a large landscaped traffic island, and the size of the unit was constrained by the need to avoid damaging trees and bushes located on the site as well as areas disturbed by modern utilities and other subsurface features. Excavation in TC01 was accomplished primarily with the use of heavy equipment and went to a depth of approximately 14 ft below grade. In order to ensure the safety of personnel working in the trench, the excavation area was shored with cross braced vertical tongue-and-groove shoring. In addition, the deepest parts of the excavation went below the level of the water table and so it was necessary to use a water pump to allow inspection of the lowest levels uncovered.

Results of Testing

Excavation at TC01 began in grid square a, the southernmost end of the trench and proceeded to the north. The stratigraphy of the uppermost levels of the excavation area was relatively consistent (Figs. 5.7 and 5.8). Beneath the topsoil (CU 1) was a series of three separate sand fill layers (CU 7, 2, 10) that appear to represent filling and grading in this area associated with the construction of the Central Artery in the 1950s and subsequent landscaping alterations to the area during the 1970s. Beneath these sand fill layers in grid a two unrecorded utilities were found. The uppermost of these was a plastic coated 4 inch diameter electrical line, presumably for the surface utility box adjacent to the trench (Fig. 5.6). Below the electric line was an apparently obsolete drainage pipe. Each of these two utilities was surrounded by sand fill (CU 3, 9). As a result of the discovery of these lines, the southern half of grid a was not excavated any deeper, shortening the overall length of the trench to approximately 19 ft.

North of these two utilities, the upper sand layers (CU 2, 7, 10) overlaid a brick and crushed mortar level (CU 5) (Figs. 5.7 and 5.8). CU 5 was ca. 5.5 ft thick and had a number of modern inclusions, including rubber hose, wood, metal, and glass fragments. Below CU 5 was a similar brick rubble layer (CU 13), approximately 1.5 ft thick, that was slightly siltier and contained more wood debris (Fig. 5.8). CU 13 was resting on a cement basement floor (CU 14); both CU 13 and CU 5 appear to be layers of destruction rubble used as basement fill at the time of the construction of the Central Artery in the 1950s.

As CU 5 was being excavated, a portion of a cut granite block wall (CU 8) began to be visible in the eastern sidewall of the excavation unit (Fig. 5.8). Although only the westernmost edge of this feature was visible, two courses of granite blocks were preserved in one area and the granite wall was clearly resting on a cement footing (CU 11). The lower portions of the cement footing (CU 11) could not be exposed due to the necessity of shoring the excavation unit, but it presumably joined the cement basement floor (CU 14). It was not possible to fully expose CU 8 due to the fact that it was in the sidewall of the trench.

As part of the basement floor (CU 14) was cleared, it became apparent that the floor was not completely level but instead sloped slightly downward from east to west. By this point in the excavation, water was flowing rapidly into the trench and it was necessary to utilize a water pump to keep the trench from becoming flooded. The basement floor was cleared so that it could be broken through in order to test the deposits beneath it; the floor was broken up with jackhammers and a section was removed by the backhoe (Fig. 5.8).

The floor was found to have been composed of several layers (Fig. 5.8). The first layer of cement (CU 14) was approximately 2 inches thick, and capped a layer almost 5 inches thick constructed of two courses of brick set in mortar (CU 15). Below CU 15 was a 5 inch layer of cement (CU 16). The most interesting feature of the floor was the evidence it provided about efforts to waterproof the basement. On both the top and bottom of the lowest layer of cement (CU 16) was a thin coating of tar, clearly applied in an attempt to make the basement watertight.

Three different layers were found beneath the basement floor (Fig. 5.8). The uppermost layer was a very dark grey coarse sandy clay with rubble inclusions (CU 17/18). Beneath CU 17/18 was a thin level of black organic clay containing wood debris (CU 19) and resting upon a dark grey-blue and olive mottled clay (CU 20) that included some small brick fragments, shell fragments, and a single bone. Excavation in CU 20 continued to about 14 ft below grade (Fig. 5.8). No evidence of wharf cribbing or pilings was discovered, and no diagnostic artifacts were found. In fact, the only possible wharf related object was a single wooden peg found in CU 19.

Discussion

It was anticipated that excavation at TC01 would uncover evidence about the construction and development of Long Wharf, specifically evidence such as cribbings and pilings that would provide information about the structure of the wharf itself. This turned out not to be the case. No evidence of the wharf structure was uncovered, and no diagnostic artifactual material was recovered dating to the construction period. The archaeological remains encountered in TC01 seem to relate primarily to the 19th-century improvements made to the buildings built on top of the wharf. In particular, the granite wall with its cement footing and the basement floor probably relate to Early Republic Period (1775–1830) or Early Industrial Period (1830–1870) replacement of wooden wharf warehouses with more substantial brick buildings with basements. The Phase II archaeological testing that took place at TC01 was apparently inside of one of these basements that had been cut into the original structure of Long Wharf.

Recommendation

During the Phase II background research it became very clear that study block TC01 had been extensively disturbed by recent construction activities, including the construction of the Central Artery in the 1950s, construction associated with the Blue Line subway, and installation of utilities. Therefore, the area chosen for Phase II testing was one of the only areas felt to have any archaeological integrity. The evidence for 19th-century construction on Long Wharf is somewhat interesting, but in the absence of earlier evidence of the wharf structure it is not considered to be significant enough to be eligible for the National Register. As a result, no further archaeological investigations are recommended for study block TC01.

Chapter 6

Study Block TC02

Location

Study block TC02 is today a paved traffic island bounded by Atlantic Avenue, Milk Street, the surface road under the Central Artery, and State Street (Fig. 6.1). This island was created only relatively recently, however, and actually overlies parts of the historic blocks that were demolished when the Central Artery was constructed in the 1950s. In this case, these historic blocks were parts of the Central Wharf building and the State Street Block, of which the remaining parts are still standing west of the surface road (Fig. 6.1).

Targeted Resources

The single trench in TC02 was placed to test the remains of Central Wharf, a large wharf that was built in 1816 between Long and India wharves. The targeted resources included both the buildings on the wharf and the structure of the wharf itself (Elia and Seasholes 1989: 158–60, 303, 309, 319, 335). These resources correspond to the categories of wharf and wharf-related sites, as described in the Phase I report (Elia and Seasholes 1989: 27–29).

Historical Background

Study block TC02 is in the Town Cove area, which was originally one of the large coves of the Shawmut Peninsula, bounded on the north by the North End and the south by Fort Hill (Fig. 1.1). Until the early 19th century, the area that is now TC02 was an open slip of water between Long Wharf and, after it was constructed ca. 1803, India Wharf. In 1815, the Central Wharf and Wet Dock Corporation, composed primarily of the same men who had been responsible for the India Wharf development, decided to build another wharf between India and Long wharves. Central Wharf, built in 1816, was almost as long as Long Wharf and incorporated the "Island Wharf," one of the last remaining pieces of the 1676 Barricado (Fig. 6.2). An 1817 letter described Central Wharf as

> . . . [an] undertaking unparalleled in commercial History . . . proof of the enterprize, the wealth, and perservering Industry of Bostonians. The number of stores are fifty-four, and the length of the tier nearly thirteen hundred feet, of four Stories. The wharf is considerably longer, and about one hundred and fifty feet in breadth, inclosed by a strong stone wall. The buildings are supported on piles and have water proof cellars . . . (Shubael Bell quoted in Whitehill 1968: 86–88).

The Corporation was financed by the sale of stock, each proprietor receiving eight shares which entitled him to one of the 54 stores on the wharf. Since some stores were considered more valuable than others, they were auctioned on January 1, 1817. Store No. 16, in which the trench in TC02 was located (Fig. 6.3), was purchased for $1300 by Perrin May. The deed specified that the Corporation was to have "the right at all times of entering the premises for the purpose of examining the State and condition of the foundation . . . and of making any repairs necessary for . . . keeping out the tide water from the cellar of the same . . ." (S.D. 253:217).

In the later 19th century Central Wharf was affected by various topographic changes in the Town Cove area. In 1856 part of the slip between Central and Long wharves was filled and the State Street Block was erected. Central Street was then laid out between this new building and the Central Wharf stores. And in 1869 Atlantic Avenue was built across the waterfront, truncating many of the wharves, and as a result the slip on the south side of Central Wharf was filled in the early 1870s.

Store No. 16 on Central Wharf continued to be used commercially throughout this period and into the 20th century; in 1929, for example, there was a coffee roasting establishment on its fifth floor. In the 1950s during the construction of the Central Artery, the section of Central Wharf containing Store No. 16 was demolished, leaving only a small portion of the original wharf building still standing west of the surface road (Fig. 6.1).

Excavation Procedures

The test site in TC02 was located at the southern end of the traffic island (Figs. 6.4 and 6.5). The surface was paved with asphalt and contained several planted trees that had to be avoided during the archaeological testing. Six excavation units were laid out in TC02, but because of the presence of the tree plantings, the normal 10 x 10 ft grid squares could not be employed. Grids a–b and d–f measured 8 x 8 ft; grid c was 11 x 8 ft.

Excavation in TC02 took place in grids d–f (Fig. 6.4). The excavation reached a maximum depth of ca. 13 ft below the ground surface. In order to ensure the safety of field personnel in the excavation trench, the entire trench was shored with tongue-and-groove boards (Fig. 6.6). A combination of backhoe and manual excavation techniques were employed during the testing.

Results of Testing

Following the removal of the asphalt surface (CU 1), a series of recent fill layers (CU 2–4, 6) was uncovered. These fill layers extended to a depth of ca. 7.5 ft below the ground surface and consisted of fine and coarse sands, brick rubble, chunks of asphalt from previous (modern) paving surfaces, and recent artifactual material such as plastic. Continuing excavation in grid squares e–f revealed the remains of the filled 19th-century basement of Store 16 on Central Wharf.

Below the modern fill layers, excavation exposed two distinct layers, CU 7/15 and 8. Both consisted of building rubble used as fill inside the building basement. CU 7/15 was concentrated in the northeast corner of the excavation unit and contained less brick and mortar rubble than CU 8, which was found in the remaining area of the trench (Fig. 6.7 A). Further excavation showed that CU 7 and 8 were above what were probably two separate but contiguous rooms. Both CU 7 and 8 contained a mixture of artifacts including historical ceramics, such as creamware and pearlware, but also plastic and other modern debris.

Excavation in grids e–f produced the remains of a substantial granite foundation wall (CU 5/24) and an associated basement floor (Fig. 6.7 A). The foundation measured ca. 3 ft thick and consisted of large cut granite blocks set in cement. The interior, or south, face of this wall showed evidence of having been faced, perhaps with brick. In addition, a double line of bricks (CU 14), running north-south, marked an apparent division of the structure into rooms. At the point where CU 14 met the granite foundation, another row of bricks (CU 9) intersected CU 14 at right angles. CU 9 did not extend west of CU 14; instead, two thin granite slabs were found on the same line. The whole arrangement suggested a north–south division of the building (marked by CU 14) into separate rooms. The foundation wall (CU 5/24) was probably built in common along the length of the wharf; the stone labelled CU 24 marked the east room, while CU 5 was the foundation of the west room. The rubble fill

CU 7/15 was located in the area enclosed by the lines of brick (CU 9 and 14); above the west division was found CU 8.

Continuing exposure of the architectural remains in grids e–f resulted in the discovery of the cement basement floor of the western room of Store 16, about 10.5 feet below the ground surface. The cement floor was 3 inches thick and had been poured on top of a brick floor paving (CU 12) (Fig. 6.7 A), possibly to provide the waterproof basement described in the historical account (See Historical Background section above). A sample of the cement flooring with bricks adhering to it was taken; one of the intact bricks was stamped "NEBCo," a mark of the New England Brick Company of Cambridge, Massachusetts (Fig. 6.8). The cellar floor was exposed throughout the length of grid e and into the northern part of grid d (Fig. 6.7 B). Below the cement layer (CU 11) in grid d was found another poured cement layer (CU 18), instead of the brick layer (CU 12). As the breaking up of the basement flooring (CU 11 and 12) was done with the backhoe, it was not possible to identify precisely where the underlying brick floor (CU12) was replaced by cement (CU18); it may have been at the north edge of CU 18, which seemed to form a definite edge and may have been related to the installation of an east-west pipe (CU 23).

The extension of the excavation into grid d exposed more of CU 14, the north–south row of bricks (Fig. 6.7 B). CU 14 continued through grid e and into d, where it turned to the east and continued into the unexcavated scarp of the trench. The interior space defined by CU 14 and CU 9 measured ca. 8.5 ft long (north–south), and indicated an interior division of the building.

The removal of the cement and brick cellar floor (CU 11 and 12) in grid e revealed several interesting features relating to the construction of the buildings, and specifically the basements, on Central Wharf. On the south face of the north foundation wall (CU 5), a series of 1 ft x 1 in planks (CU 13) was found running horizontally, supported in place by three vertical wood stakes (CU 20) (Fig. 6.7 B). These wooden features appeared to have formed a frame or mold against which a concrete footing was poured; this footing held the small granite blocks that may, in turn, have formed the base of a brick facing for the interior of the cellar.

In the southern end of the test unit, along the line between grids d–e, a metal pipe (CU 23) was found running east–west along and below the level of the lower (CU 18) of the two cement floors that were located there. Also below the level of CU 18, and running beneath it, was a small (4 in diam.) round unhewn timber (CU 21), aligned roughly east–west (Fig. 6.7 B). Resting on top of CU 21 were three wood planks (CU 22) aligned roughly north–south; the planks each measured ca. 0.7 ft in diameter. Together, CU 21 and CU 22 seem to form part of a supporting platform for the overlying cellar floor (CU 18); the location of the pipe (CU 23) suggested that it should be associated with CU 18 as well, although it is not clear if the CU 11/CU 18 (cement over cement) cellar floor reflected a separate building phase or an alteration when compared with the CU 11/12 (cement over brick) floor.

In grid e, excavation below the level of the cellar floor revealed the presence of a black and olive clay silt, mottled with blue clay (CU 16). Within this stratum two large wood beams (CU 17 and CU 19) were exposed; the beams were parallel, and ran east–west across the trench (Figs. 6.7 B and 6.9). CU 17 was an unhewn beam, 7 inches in diameter; it was exposed for a length of 8 ft across the trench and continued into both unexcavated scarps. CU 19, located ca. 2.5 ft south of CU 17, was a roughly hewn timber, 8 inches in diameter. Initially, it was thought that these two beams might represent part of a cribbing network for the core of Central Wharf. Continuing excavations, however, showed that these beams rested separately within CU 16 and were not tied into a cribbing structure. Instead, it seems likely that they were laid to provide a support for the laying of the basement floor of the building above them.

In order to sample within and below the clayey soil of CU 16 (i.e. the stratum beneath the level of the basement floor), Manual Unit 1 (3 x 2.5 ft) was excavated in grid e between the two wood beams (CU 17 and 19) (Fig. 6.7 B). CU 16 in MU 1 was designated CU 26. Together, CU 16/26 represented a probable fill level placed down during the construction of Central Wharf in 1816. The wide variety of artifacts recovered from this context, including ceramics, window and bottle glass, shell, wood, plaster, and flint, indicated a cultural origin—possibly refuse—for the fill (Table 6.1). Of particular interest were the ceramics. Much of the diagnostic material was pearlware and creamware, which accords well with the construction date of 1816 for Central Wharf. On the other hand, a number of the ceramic sherds dated to earlier periods; for example, there were a few sherds of white salt glazed stoneware, Fulham-type stoneware, and tin glazed earthenware.

Also of interest was the large number (213) of gray- and honey-colored flint nodules recovered from CU 16. These consisted primarily of unmodified pebbles and fractured nodules. No worked pieces (e.g., for gunflints or stike-a-lights) were found, and it is reasonable to conclude that the flint derives from ships' ballast.

In the northwest corner of MU 1, within CU 26, a round pit feature (ca. 1.5 ft diam) was excavated (CU 27) (Fig. 6.7 B). This pit contained brick fragments, a small number of ceramics (creamware, pearlware, and Staffordshire stoneware), a few pieces of glass, shell, and bone, and the surprisingly large number of 50 flint nodules. Below CU 26 and 27 in MU 1, two other dark, clayey fill layers were excavated (CU 28 and 29). Excavation at this point (i.e., some 12 feet below ground) was becoming difficult within the small manual unit (MU 1). In order to expose a larger area, it was decided to excavate a backhoe trench within grid e below the level of the two cross beams, CU 17 and 19.

In order to allow access for the backhoe, sections of CU 17 and 19 were removed with a chainsaw; 1 ft sections of each beam were taken as samples so that species identification could be made. The samples were identified as pine, possibly white pine (*Pinus strobus*) (Dr. Julie Hansen, personal communication). Deep Test 1, measuring ca. 7 x 2.25 ft, was then excavated in grid e (Fig. 6.7 B). Two soil layers, CU 30 and 31, were identified in this unit. Both were dark, organic, clayey soils and difficult to distinguish from each other; they were probably fill soils placed there during the construction of the wharf. In the northern portion of Deep Test 1, two closely placed wood planks (CU 32) were exposed (Fig. 6.10). Both planks were ca. 1 ft wide and 3.5 in thick; they were aligned east-west and were parallel to the north foundation wall (CU 5). A third similar plank was traced up against CU 5 but could not be fully exposed because of soil slumpage. The water table was encountered as CU 32 was being exposed; the feature was located ca. 12.5 feet below the ground surface.

Probing below the level of the wood planks (CU 32) revealed that no other wood planks or beams underlay the planks. Like the other beams in the trench (CU 17, 19, and CU 21/22), they seem to have served to form a surface or supporting platform rather than a cribbing for the wharf. Because CU 32 abutted the north foundation wall (CU 5) but did not continue more than ca. 3 ft south of it into grid e (as demonstrated by the excavations in Deep Test 1), it is probable that the feature was associated with the foundation (Fig. 6.7 B). It may have been laid down on the wet, clayey ground in order to serve as a working surface for the construction of CU 5.

Discussion

The excavation of grids d–f in TC02 revealed substantial evidence for the construction of the building basements on Central Wharf. This information is particularly interesting because the building of Central Wharf included the simultaneous construction of wharf and wharf buildings. Unlike many historical wharves, where buildings with basements were built *into* the fabric of existing wharves, Central Wharf included them right from the start, and archaeological excavation has been able to examine this construction as an integral part of the creation of the wharf itself.

It was somewhat surprising that the excavations did not yield any evidence of wharf cribbing or a similar framework for the core of the wharf. Central Wharf was a massive construction, and such a system of support was anticipated; on the other hand, the testing was only able to explore a relatively small portion of Central Wharf (ca. 24 x 8 ft, with the deepest exposures much smaller than that), and it is possible that the cribbing cells, if they existed, as seems likely, were larger than the area exposed in the test trench. In addition, in the confined area available for testing it was impossible to reach a depth greater than ca. 13 feet, owing to the limitations in the reach of the backhoe over the cross-bracing timbers that were essential to support the shoring for the trench. It is possible that additional evidence might be unearthed from deeper excavations below the water line, but it seemed unlikely that substantial cribbing or pilings would be found within the excavation unit.

Recommendation

In view of the limited amount of area available in TC02 for additional excavation, which would include little more than grids a–d and the intervening space below the trees, it is unlikely that significant additional information could be learned beyond what has already been recorded in the Phase II testing. It is likely that similar conditions would be found beneath the basements of the adjacent buildings in this area. If a portion of the slip, or even a section of the wharf surface that had not been built upon were available for testing, additional data might be acquired that would supplement the available data on the construction of Central Wharf. Such areas are not, unfortunately, available for testing owing to extensive disturbances from construction and underground utilities. It is therefore recommended that no additional archaeological investigations be conducted at TC02.

Chapter 7

Study Block SC02

Location

Study block SC02 is bounded by Kneeland, Albany, and West Fourth streets and the Fort Point Channel. Much of this "block" contains highway ramps associated with the Mass Pike and Southeast Expressway. Archaeological testing was focused on an open, undeveloped area south of the Broadway Bridge between the Fort Point Channel and the surface road east of the Southeast Expressway (Figs. 7.1 and 7.2).

Targeted Resources

The single trench in block SC02 was intended to test the remains of Cobb's Wharf (ca. 1814), one of the earliest wharves in the South Cove area and an example of one type of expected archaeological resource that was specified in the Phase I report (Elia and Seasholes 1989: 27–29).

Historical Background

South Cove was originally an area of water off the southeastern part of the Shawmut Peninsula (Fig. 1.1). A few wharves were built out into this cove during the Colonial Period (1675–1775) and more during the Early Republic Period (1775–1830). One of the latter was Cobb's Wharf, which was extended out from Front Street (now Harrison Avenue) sometime betweeen 1805, when that street was completed, and 1814, when the wharf is shown on a map of Boston (Fig. 7.3).

In the 1830s the part of South Cove north of the present Turnpike was filled and this project was continued in the 1840s when most of the area from present Herald to West Fourth (East Berkeley) Street was also filled. An 1852 map of Boston shows that all the area north of Cobb's Wharf had been filled leaving the end of the wharf, apparently the same length as in 1814, extending into the Fort Point Channel west of Albany Street (Fig. 7.4).

In the later 19th century, Cobb's Wharf was used for construction materials, as were many of the wharves in the Fort Point Channel/South Bay area during this period. An 1874 atlas indicates that at that date the former Cobb's Wharf was used for lumber (Hopkins 1874: Pl. P), and this was also true in 1885, when it was labeled "Storage Wharf" (Sanborn 1885: Pl. 25C). The 1885 atlas also shows that by that date the slip between this wharf and the one immediately north had been filled. By 1895 the slip to the south had also been filled and the wharf was being used for coal storage (Sanborn 1895: Pl. 58). After 1909 the use, if any, of the wharf is unclear, for the wharf is blank on the atlas plates for 1909 and subsequent years (Sanborn 1909: Pl. 58; Sanborn 1929: Pls. 67, 68; Sanborn 1929–51: Pl. 68). All surface evidence of the former Cobb's Wharf was covered over in the 1950s when the filling of South Bay was completed and the Southeast Expressway constructed.

Excavation Procedures

The location of the excavation area is shown in Figures 7.1 and 7.2. A 30 x 50 ft trench was laid out approximately 12 ft east of the edge of the surface road adjacent to the Southeast Expressway and was placed to cut perpendicularly across the presumed location of the eastern end of Cobb's Wharf. The test trench was divided into fifteen 10 x 10 ft squares labelled a–o. Although some shovel excavation was done, most of the work consisted of monitoring deep backhoe trenches in an effort to locate the remains of the wharf (Fig. 7.5). Three major deep tests were completed. The first was in grid squares a and d (Fig. 7.1) and was excavated down to water at a depth of between 20–21 ft below grade. The second deep test was further south, encompassing the eastern half of grid squares h/k/n and the western half of squares i/l/o, and was excavated to approximately 20 feet below grade. The final deep test was in the eastern half of grid m and the western half of grid n.

Results of Testing

Although there was some minor variation across the trench, the stratigraphy was relatively consistent throughout the excavated area. The following description, based on the deep test in grid squares a and d (Fig. 7.1), is representative of the entire excavation area (Fig. 7.6). The surface fill layer (CU 1) was a very dark greyish brown soil with rock, rubble, brick, and other inclusions. This level varied between 2.5–4.75 ft in thickness and overlaid a thin level of cement and sand (CU 8). Immediately below CU 8 was a layer of light olive grey coarse sand with gravel (CU 2) that was relatively devoid of artifacts. This was separated from a thin layer of light olive grey sand below it (CU 4) by an intermittent layer of concrete slabs (CU 3). At approximately 8 ft below grade there was a thick, black, organic level full of bricks and demolition rubble (CU 5). The thickness of the rubble (over 12 ft in some areas) and the absence of any *in situ* foundations or other features strongly suggest that the rubble does not represent the remains of buildings torn down on the site but rather rubble that was transported into this area for use as fill. Below CU 5 was a similar layer of coarse dark sand with brick rubble (CU 6) that was approximately 4 ft thick. Excavation in squares a and d continued until water and a sterile olive sand (CU 7) were encountered at 20–21 ft below grade. Although a number of pieces of timber were found, none was greater than about 3 ft long and none appeared to be anything more than inclusions in the fill.

Discussion

The other two deep tests revealed, with some minor variations, very similar profiles and were excavated to similar depths (over 20 feet below grade). In both of the last two deep tests excavation continued, in at least part of each, through the rubble layers to the level of the sterile olive sand below (CU 7). In neither case were any *in situ* remains or other indications of the wharf discovered. Analysis of the artifacts that were recovered indicates a *terminus post quem* of 1893 for the material excavated from CU 5, and it seems likely that this layer and CU 6 were deposited in the area as fill during the early 20th century, narrowing the adjacent Fort Point Channel. The total absence of any wharf-related remains suggests that the excavation area as placed was east of the eastern edge of Cobb's Wharf.

Recommendations

No significant archaeological remains were encountered in the excavation unit. The site is therefore not considered eligible for the National Register, and no additional archaeological investigations are recommended for study block SC02.

Chapter 8

Study Block SB10

Location

The entire study block SB10 is located in South Boston bounded by Summer and A streets, the curved fence line of the U.S. Postal Services parking lot, an imaginary line extended from Binford Street, and the fence on the east side of the Postal Services parking lot (Fig. 8.1).

Targeted Resources

The targeted resource consists of the remains of a ca. 1880 railroad engine house, which occupies only a very small part of the study block; it is located about 140 ft northeast of the curved fence of the parking lot (Fig. 8.1) . The engine house was considered a significant resource because very few such facilities survive and none have ever been adequately investigated archaeologically (Elia and Seasholes 1989: 250–56, 314, 319–20, 349–51). It was hoped that such an investigation would provide information about the operation of the engine house turntable as well as about the various lines, such as water, drainage, and compressed air, that serviced the engine house.

Historical Background

Study Block SB10 is on the South Boston Flats, an area that was originally mud flats north of Dorchester Neck and was filled, in a massive project, in the last quarter of the 19th century and the first decades of the 20th. The portion of the block on which the engine house was located was part of what was known as the "12-acre lot," a section of the flats that was partially filled by the Commonwealth between 1873 and 1879 and was purchased by the New York and New England Railroad in 1880 (Fig. 8.2; Massachusetts Harbor Commissioners 1908: 18). The railroad apparently quickly erected an engine house as part of their terminal facilities on the flats, for a partially completed roundhouse is shown on an 1880 bird's eye view (Fig. 8.3). The engine house was completed by 1885 and by 1888 was surrounded by typical attendant facilities: a sandhouse, blacksmith shop, office, and oil house (Fig. 8.4).

Railroad engine houses were used for cleaning and making light repairs to steam locomotives. When an engine entered a terminal yard after a trip, first the ashes and cinders were emptied from the firebox into a depressed ash pit. (The ashes were later wetted down and distributed over the right of way as ballast.) The engine was then inspected and, if necessary, moved to the engine house. Engine houses were usually round and, if so, were served by a turntable. The latter apparatus consisted of a platform with two tracks set into a circular pit that had a single track running around the circumference. After an engine moved onto the platform, the latter was turned so that the engine could enter the appropriate stall (Fig. 8.5). Once in the engine house, the locomotive was repaired and/or the boiler cleaned to remove accumulated scale. The locomotive was then refired and moved out of the engine house, but before leaving the terminal area it was resupplied with coal, water, oil, and sand from the attendant facilities (Van Metre 1950: 358–64; Droege 1912: 387–411; Haines 1919: 266–67; Cordeal 1924: 45–62).

The engine house in block SB10 was acquired in 1897, along with the rest of the New York and New England Railroad, by the New York, New Haven, and Hartford Railroad. In a massive reorganization of the South Boston terminal facilities, occasioned by the opening of South Station in 1899, the SB10 engine house was rebuilt. The new engine house was of brick and had 34 stalls and a new turntable, which may have been powered by steam, as suggested by the "boiler" shown on a 1923 map (Fig. 8.6; Elia and Seasholes 1989: 253). It is not clear, however, how much of the structure was actually replaced, for its building footprint in 1923 was very similar to that in 1888 (Figs. 8.4 and 8.6). The 1923 map does show that by that date a section of the engine house had been removed and a water tank had been added to the surrounding facilities (Fig. 8.6), and by 1951, when steam locomotives were being replaced by diesel, only a very small section of the engine house remained (Fig. 8.6).

In 1978 the property was acquired by the U. S. Postal Service. A plan drawn at the time (Fig. 8.7) shows that many of the facilities present in 1951 (Fig. 8.6) were still in place: the turntable pit, a segment of the brick roundhouse, a large brick building near the roundhouse and several smaller structures south of the turntable, and many tracks. The Postal Service then demolished the standing structures and filled in the turntable; today the site is an asphalt-paved parking lot for the Postal Service employees.

Excavation Procedures

After the fencing of a 100 x 100 ft area, laid out to encompass the turntable pit and a portion of the engine stalls of the roundhouse, a 50 x 20 ft excavation unit was established (Fig. 8.7). This unit contained ten 10 x 10 ft grid squares, labelled a–j, comprising 1000 sq ft. Based on the location of the pivoting platform of the turntable as shown in the 1978 plan, the excavation trench was intended to intersect the platform, part of the floor of the turntable pit, and a portion of the edge of the engine stall area.

The asphalt surface of the parking lot was removed from grid squares a–e and j (Fig. 8.7). Excavation proceeded in this area (Fig. 8.8), primarily in grids e and j, before testing was terminated due to the presence of contaminants on the site.

Results of Testing

The modern layers associated with the Postal Service parking lot were the asphalt surface (CU 1) and two underlying strata of sand that formed the bedding for the asphalt (CU 2, 3). These layers totaled 1.5 ft in thickness (Fig. 8.9), and were very compact and level across the two excavated grid squares (e/j). Below CU 4 was a thick (ca. 3.5 ft) fill stratum consisting of a very compact coarse black sand containing coal slag and brick rubble. The stratum contained building rubble and was apparently used to fill up the turntable pit in 1978; the turntable pit is shown on the 1978 plan as being over 4 ft deep. A likely source for this fill was the demolition debris from the standing structures in the freight yard, including a portion of the superstructure of the roundhouse itself, which was apparently still standing in 1978. CU 4 contained numerous objects of recent date, including aluminum cans and plastic, as well as a few railroad ties. It also exhibited strong petroleum-type fumes when dug into by the backhoe or moved onto backdirt piles; the black color of the stratum was probably derived in part at least from petroleum-based products.

Below CU 4 was a thin (ca. 0.8 ft) layer of gray sand (CU 5) (Fig 8.9). At the bottom of this layer were found portions of three railroad ties, apparently thrown into the fill of the turntable. One (CU 6) ran roughly east-west and projected out of the west wall of grid e. The other two (CU 7 and 8) extended out of the north wall of grid e into the grid square. Between CU 7 and 8 was found a section of vertical planking (CU 10), extending into CU 9, an olive brown sand underlying CU 5. It could not be determined if CU 10 represented an intact feature or was part of the fill.

The olive brown sand (CU 9) exhibited a very strong petroleum-type odor; this stratum, whose top was located about 5 ft below the surface of the parking lot, was also quite moist. Due to concerns about the presence of likely contaminants in grid e, both in CU 4 and in CU 9 (in the latter, apparently in stronger concentrations, judging from the intensity of the fumes), it was decided to move to grid j and to excavate a deep backhoe trench (Deep Test 1) in order to ascertain if the contaminated strata were also present in that unit and to determine the depth of CU 9 (Fig. 8.9).

While excavating through CU 4, the backhoe removed several fragments of concrete slabs. These measured 4 inches in thickness and were not in place. Below CU 4, CU 9 was encountered and excavated to a depth of ca. 7 ft below the surface of the parking lot. The noxious petroleum-type fumes were present in both CU 4 and CU 9 in grid j. At the base of the excavation through CU 9, liquid began to enter the test unit; this liquid, possibly the water table contaminated with petroleum, exhibited a very strong odor. Soil samples of CU 4 and 9 were taken so that they could be tested for the presence of contaminants.

Owing to the presence of contaminated soil throughout the excavated grid squares e and j, further testing here was discontinued. Grid units e and j were backfilled. In order to ascertain if the contaminated layer CU 4 was also present below the sand bedding (CU 3) in grid squares a–d, the top level of these units were probed with shovel and hand-held auger. CU 4 was determined to be present throughout grid squares a–d, and further excavation in SB10 was not attempted.

Following the testing at SB10, the Massachusetts Department of Public Works notified the U.S. Postal Service about the possibility of contaminated soils at the site. The Postal Service, in turn, notified the Massachusetts Department of Environmental Quality Engineering, which made a visit to the site.

Discussion

Test excavations at SB10 were discontinued before an assessment of the archaeological integrity of the site could be made. Grid units e and j were expected to intersect a portion of the pivoting platform of the roundhouse. This expectation was based on the location of the platform as shown on the 1978 plan (Fig. 8.7). According to the recollection of Postal Service engineer Edward Nicholas, who gave OPA the 1978 plan and who was present at the time the site was filled in 1978, the entire turntable pit, including the pivoting mechanism, was intact and was simply filled in rather than being dismantled. The archaeological testing, however, did not locate any evidence of the platform or any portion of the turntable pit in grids e/j. Although the absence of distinct remains from the turntable structure was puzzling, the question could not be pursued through excavation of any of the remaining grids (a–d, f–i) (Fig. 8.7).

As described above, the contaminated soils in CU 4 and CU 9 exhibited a strong petroleum-type odor. Although chemical testing must be conducted to ascertain the exact type of contaminants present at the site, a possibility presents itself judging from the nature of railroad roundhouse and freight-yard sites. The strong oily fumes and black-colored soils suggest a variety of petroleum products; the contaminants from these are probably polynuclear aromatic hydrocarbons (PNAs), which are described in the *Handbook of Toxic and Hazardous Chemicals and Carcinogens* (2nd ed., 1985: 740) as resulting from the combustion of hydrocarbons; they are commonly found in oil spills, industrial activity, and coal refuse heaps. Considering that the activities that took place in roundhouses and freight yards included the cleaning and servicing of coal-burning locomotives (involving large amounts of coal, oil, and solvents), it is likely that the contaminated soils in the SB10 excavations derive from these activities.

Recommendation

The presence of contaminants in SB10 made the archaeological testing of the site potentially dangerous. It is recommended that soil samples from the contaminated layers on the site be tested for the presence of hazardous materials. Based upon the results of the analytical testing of the soil samples, appropriate decisions can be made about whether or not further excavation on the site should be attempted. It is likely that a decision will be made not to conduct further archaeological investigations at the site. Even if field personnel could be adequately protected from contamination through appropriate clothing and masks, the problem of recovering contaminated artifactual materials would remain.

Chapter 9

Conclusions

The Phase II archaeological survey was the culmination of an intensive program of historical research, study of existing conditions and disturbances, and archaeological testing. The Phase I study (Elia and Seasholes 1989) presented extensive documentation on the historical development of the project area, and identified hundreds, if not thousands, of potential archaeological sites. But the Phase I study also revealed the extensive nature of disturbances in the project area, chiefly from the construction of building basements, underground utilities, and the construction of the elevated Central Artery itself in the 1950s. So extensive were the disturbances, in fact, that of 90 study blocks investigated during the Phase I study, only 15 were considered likely to contain undisturbed and potentially significant archaeological resources (Elia and Seasholes 1989: 302–51). While many of these study blocks were omitted from testing because they did not contain potentially significant archaeological resources, such as the large areas of late landfill in South Boston and East Boston, a total of 19 study blocks, mostly located in the Central Artery portion of the project area, were eliminated solely on the basis of documented disturbances from construction activities.

One of the most important conclusions that can be derived from analysis of the Phase II archaeological testing at the 6 study blocks in the project area (MP01, NE03, TC01, TC02, SC02, SB10) is that the testing revealed that the degree of disturbance to archaeological resources was even more extensive than was thought based on the results of the Phase I study. The methodological approach employed during the Phase I/II archaeological investigation involved the selection of specific historical lots for testing on the basis of 1) their potential archaeological significance, and 2) their likelihood of remaining relatively undisturbed. A major component of the Phase I study was directed at identifying disturbances with as much accuracy as possible. This effort included the collection of all available data relating to the location of subsurface utilities, building basements, highway ramp foundations, and bent foundations for the elevated Central Artery. These data were computerized as part of the digitizing program so that the most accurate location of these disturbances relative to the anticipated archaeological resources could be ascertained.

Despite this effort the Phase II testing revealed additional, undocumented disturbances at virtually every test location. These disturbances took three primary forms: 1) building basements; 2) underground utilities; and 3) construction impacts from the building of the original Central Artery in the 1950s. Each of these forms of disturbance is described briefly below.

During the Phase I study, it was assumed, based on previous archaeological testing in the Boston area, that the construction of 19th- and 20th-century buildings with basements had severely impacted earlier archaeological resources in portions of the project area that were located on original land. Building basements were identified from the 19th-century atlas maps (primarily the Sanborn insurance maps) and building lots with basements were generally omitted from the testing program. The Phase II testing revealed that several buildings that were shown on the atlas maps to be without basements in fact did have basements. At the eight Phase II test sites located in former building lots that were believed to be without basements (i.e., all test sites but SC02 and SB10), three of the sites were found to have basements (NE03 Trench B, NE03 Trench D, and TC01).

The source of the error on the atlas maps is unclear. It is possible that the maps simply failed to record basements in specific buildings; if this was the case, the error was repeated in subsequent editions of the maps, which continued to indicate the absence of basements in these buildings. Another possibility is that at the time of the original recording of basements, the buildings in question (or some of them) did not have them, and basements were added later. In any case, as a general rule for future research, it seems prudent to assume that the atlas maps underrepresent the number of buildings with basements.

Another general conclusion that may be drawn from the Phase II testing is that the original assumption made in the Phase I study about the nature of disturbance caused by building basements is accurate. In the case of NE03 Trench B and Trench D, TC01, and TC02 (where the basement was built as part of the original development of Central Wharf in 1816), archaeological testing confirmedthat no significant archaeological resources remained below the basements. At NE03 Trench B, a truncated feature, possibly a well or cistern (CU 11), was found below the level of the basement (Figs. 4.23 and 4.25). This feature contained few artifacts, and no associated cultural strata or features survived the construction of the basement. This situation is analogous to archaeological testing in the adjacent Parcel 7 block (Elia and Seasholes 1986: 21-26), and at 99 High Street (Roberts 1989: 1), where only the remains of truncated features had survived below a basement. In these cases, the surviving remains could not be considered either intact or archaeologically significant.

The two basements that were encountered at the wharf sites—TC01 (Long Wharf) and TC02 (Central Wharf)—also made it impossible to discover significant data about the construction of those wharves. At TC01, the basement was probably added to the wharf in 19th century. At TC02, the basement was part of the original construction of the wharf in 1816. In both cases, excavation below the level of the wharves failed to reveal substantial evidence for the nature of the wharves.

The Phase II testing revealed the presence of underground utility lines in four of the eleven test trenches in addition to the utilities already documented for the project area during the intensive study of existing conditions during the Phase I study. At MP01, a concrete utility cap (CU 4) and water/sewer line (CU 5) were discovered in Trench A (Fig. 3.7). In NE03 Trench A, a concrete utility cap (CU 19) was found (Fig. 4.10), and in NE03 Trench C, an electrical line (CU 2) for lighting was discovered just below the asphalt parking lot surface (Fig. 4.30). In TC01, a PVC pipe (CU 4) was encountered in the southern portion of the trench (Fig. 5.8). In all these cases, the utilities had disturbed portions of the test areas and could have created a potential hazard if they had not been discovered during the testing by an alert field team.

The third type of documented disturbance—that from the construction activities for the original Central Artery in the 1950s—resulted in a widespread removal of cultural levels and the grading of the project area. Figure 4.2 shows the extensive nature of grading activities during the construction of the roadway. In general, the Phase II testing demonstrated that the original construction had caused the removal and truncation of cultural levels rather than a build-up of cultural debris associated with the razing of the 19th-century structures that occupied so much of the Central Artery corridor. At MP01, for example, excavation in Trench A showed that the grading activities had extended to the lowest level of the 19th-century buildings that formerly occupied the site. Only the lowest course of the foundation walls in Trench A had survived the construction of the artery (Figs. 3.7, 3.10, and 3.11). The Mill Pond fill strata were encountered almost immediately below the sand bedding for the parking lot.

Grading activities throughout the NE03 study block were equally extensive. An examination of surface elevations in the parking lot demonstrates that the entire block sloped downward from its north and south edges towards the center. This "bowl-shaped" sloping of the parking lot surface is readily apparent on the site. In the west half of the lot, elevations slope downward from a high of 14.2 ft above sea level at Cross Street to a low of 11.09 ft at the northeast corner of Trench A, in the center of the lot. At the south edge of the lot, adjacent to the existing on-ramp, the elevations rise again to 12.64 ft at the southwest corner of Trench A. Likewise, in the east half of the lot, where Trenches C, D, and E were excavated, the ground slopes at the surface from a high point of 12.15 ft at the northeast corner of Trench D to a low of 10.96 ft at the southeast corner of Trench E, in the middle of the block; the surface then rises again to 12.46 ft at the southwest corner of Trench C.

The intensive grading activities in NE03 can also be determined from a study of the elevations of the basement floors uncovered in Trench D and Trench B. In Trench D, the basement level was ca. 5 feet below the ground surface; in Trench B, the basement floor was ca. 6 ft below the parking lot surface. Comparison with the buildings on the adjacent Parcel 7 shows that all the basements there ranged from 6.5–8.8 ft below the19th-century first-floor level (Elia and Seasholes 1986: 18). Assuming that the basements in NE03 were built to roughly the same depth, it is then likely that the Central Artery grading removed the top ca. 2–4 feet from the basements of the 19th-century buildings.

The truncation of earlier historical levels by the Central Artery construction in the 1950s is also evidenced by the discovery of the possible well feature in Trench B and by the shallowness of the earliest cultural strata in Trench E. In Trench E, excavation revealed the remains of traces of a late 18th-/19th-century building foundation (CU 13) and an associated privy (CU 39/42/43/44/46) (Fig. 4.75). These remains were encountered at a shallow depth; they were essentially immediately below the sand bedding for the parking lot. Although the lowermost portions of the privy feature produced some interesting artifacts, the site did not retain enough integrity to be considered significant.

Despite the massive amount of disturbance documented both by the initial Phase I study and the subsequent Phase II testing, the methodological approach of targeting specific historical lots on the basis of their expected archaeological resources and lack of major disturbance proved to be a successful technique. Three historical sites were ultimately identified as a result of the Phase II testing as being both potentially significant and undisturbed. In all three cases, the sites were initially identified as being potentially significant on the basis of their historical development. They were then selected for testing because the 19th-century buildings that occupied the lots did not contain basements.

In the case of NE03 Trench A, the late 17th-/early 18th-century wharf structure was located at a depth of ca. 7.5 ft below the parking lot surface. Had a building basement existed on the site, it is possible that this wharf would have survived but it probably would have been truncated to some extent and the overlying Mill Pond fill sequence would certainly have been removed. At NE03 Trench C, the late 17th-/early 18th-century strata (CU 15/29/32) in the so-called "Storage" lot were first encountered at about 1.3 ft below the parking lot surface and extended to a depth of at least 3 ft below the surface. These significant deposits would certainly have been destroyed if the 19th-century building that stood on the site had contained a basement. The same is true of the other significant site discovered in Trench C, the so-called "Open Lot." In this lot, the two features that were encountered were located less than 2 ft below the asphalt parking lot surface and would certainly have been destroyed if there had been a basement on the site.

Summary of Recommendations

A summary of the recommendations of the Phase II archaeological survey is presented in Table 9.1. Of the eleven sites tested during the Phase II investigations, eight are believed to lack sufficient integrity and/or research potential to be eligible for the National Register of Historic Places. These sites are MP01, Trench A; MP01, Trench B; NE03, Trench B; NE03, Trench D; NE03, Trench E; TC01; TC02; and SC02. No additional archaeological investigations are recommended for these sites.

One site—SB10—was found to contain contaminated soils, and archaeological testing was discontinued at the site before sufficient data could be acquired that would have permited an evaluation of the integrity and research potential of the site. It is recommended that the site be tested for hazardous materials and that, based on the results of the soil testing, a decision be made regarding the advisability of further archaeological testing on the site.

Three archaeological sites were judged to be significant and eligible for inclusion in the National Register of Historic Places. The three sites were located in two of the Phase II testing areas, all within NE03. These sites are NE03, Trench A, termed the Mill Pond Wharf Site; NE03, Trench C, "Storage

Lot," termed the Paddy's Alley Backlot Site; and NE03, Trench C, "Open Lot,"termed the Cross Street Backlot Site. Two sites were defined within the NE03, Trench C testing area because they comprised distinct historic lots. The three sites are recommended for Phase III investigations, i.e., data recovery excavations, prior to construction. Each site is briefly summarized below.

Mill Pond Wharf Site (NE03, Trench A)

Phase II testing revealed the existence of intact archaeological remains dating from the Colonial (1675–1775) and Early Republic (1775–1830) periods. The site consists of a wooden wharf structure, dating at least as early as 1709, and extending from the original shoreline into the former Mill Pond; deposits of Mill Pond fill (ca. 1808–1828) overlying the wharf; and remains of post-filling development (e.g., structures, cobble surface). The site is considered eligible for the National Register under Criteria C and D.

The site is likely to be representative (Criterion C) of residential houselots in the North End and specifically those fronting onto the Mill Pond. Phase III excavation of the site will provide significant information (Criterion D) about three categories of archaeological resources defined in the research design for the project: 1) wharves and wharf-related sites; 2) landfill; and 3) settlement and structures (Elia and Seasholes 1989: 23–30). The Mill Pond Wharf is a unique survival—a private dock located not in the main harbor area but in the Mill Pond. Excavation of the site may elucidate several important topics relating to Boston's early history, including the nature and processes of land use along the original shoreline of the Mill Pond; small-scale commercial activity; the form and construction technology of early, private wharves; and changes in land use and development in a single historic lot between the late 17th century and the early 19th century.

Paddy's Alley Backlot Site (NE03, Trench C, "Storage Lot")

Phase II testing in the former "Storage Lot" revealed intact archaeological deposits and features dating between the late 17th century and ca. 1740. This lot was originally part of two 17th-century lots. The west half of the "Storage Lot" was formerly part of a 17th-century houselot measuring 48 x 155 ft; by 1730, the portion of this lot that later became part of the "Storage Lot" measured 15 ft wide and contained a two-family house. The archaeological testing revealed the remains of features (walls, pits, post holes) as well as cultural levels containing abundant archaeological and faunal remains. Additional excavations are likely to reveal the remains of structures (e.g., house, barn) that formerly stood on the houselot.

Paddy's Alley Backlot Site is considered eligible for inclusion to the National Register of Historic Places under Criteria C and D. The site is believed to be representative of late 17th- and early 18th-century houselots in the North End (Criterion C) and is considered likely to yield important information (Criterion D) about the category of sites relating to "settlement and structures" (Elia and Seasholes 1989: 23–27) for the Colonial Period (1675–1775) in Boston. Research topics that can be addressed by Phase III excavations at the site include the spatial layout of houselots in the North End; changes and processes relating to the intensification of settlement and the subdivision of original houselots; Colonial Period architecture, waste management, and water supply; garden and backlot landscaping; ethnic and social identity and status; the natural (i.e., pre-European) environment and changes made to it as a result of settlement and development; and aspects of foodways (consumption, procurement, and butchering practices).

Cross Street Backlot Site (NE03, Trench C, "Open Lot")

A corner of this lot was tested during the Phase II investigations. Testing revealed two archaeological features—an early 18th-century midden or trash pit and an early 19th-century privy. Historically the lot was part of several 17th-century houselots that fronted on Cross and North streets, and it apparently remained open until the construction of the Central Artery in the 1950s. The remains discovered in the Open Lot are related to the category of archaeological resources defined as "settlement and structures" (Elia and Seasholes 1989: 23–27) and are considered eligible for the National Register under Criteria C and D. The lot is considered representative (Criterion C) of domestic lots dating to the Colonial (1675–1775) and Early Republic (1775–1830) periods; in addition, it is considered likely that Phase III excavations will recover important information (Criterion D) relating to residential houselots of the period. Additional backlot features such as trash pits, privies, and outbuildings are likely to be found and, because the lot was originally part of 17th-century lots, it is possible that remains from the Plantation Period (1620–1675) will also be discovered.

Appendix A

A Preliminary Analysis of Faunal Material from Phase II Archaeological Investigations of the Central Artery/Third Harbor Tunnel Project

by

David B. Landon

Introduction

This report discusses the faunal material recovered during the Phase II archaeological testing of the Central Artery/Third Harbor Tunnel project. The goal is to assess the potential value of the faunal material and the type of research questions it can be used to investigate. A brief discussion of the approaches to analysis of urban faunal assembages will serve to define the range of potential research questions that could be examined. The focus will then shift to an examination of historical information about food production and urban foodways in the city of Boston. Some general comments about the overall recovery of faunal material will be made, but the major focus will be on a portion of the faunal assemblage from a single site. Faunal material from kthe Paddy's Alley Backlot Site (NE03 Trench C, CU 15, 29, 32, and 43) will be described in some detail, beginning with the procedures used for the analysis. Finally, the interpretation of this sample will investigate the potential of this material to address some of the research questions initially outlined.

Approaches to Urban Assemblages

In northern North America the analysis of faunal assemblages from historical sites has developed rapidly over the past two decades (Jolley 1983), and a number of interesting research questions have been addressed. One of the most dramatic areas of expansion has been in the analysis of urban faunal assemblages. Samples from a number of different cities have been examined including Annapolis, Maryland (Reitz 1987a), Atlanta, Georgia (Davidson 1982), Boston, Massachusetts (Bradley et al. 1983; Landon 1987a), Brooklyn, New York (Henn 1985), Cambridge, Massachusetts (Graffam 1982), Charleston, South Carolina (Reitz 1986), Detroit, Michigan (Mudar 1978), Hartford, Connecticut (Bellantoni et al. 1982), Lowell, Massachusetts (Landon 1987b, 1987c), Newport, Rhode Island (Young 1987), Phoenix, Arizona (Henry 1987), Portsmouth, New Hampshire (Pendery 1984), Sacramento, California (Schulz and Gust 1983), and Salem, Massachusetts (Bowen 1982).

These studies have varied greatly in their approaches, interpretive emphases, and degree of sophistication; some have been primarily descriptive (Bellantoni et al. 1982; Bowen 1982; Bradley et al. 1983). One of the major issues a number of historical archaeologists have tried to address is the correlation between ethnic and/or socio-economic group affiliation and patterning in the faunal assemblages (Henn 1985; Henry 1987; Landon 1987b, 1987c; Mudar 1978; Otto 1977; Pendery 1984; Schulz and Gust 1983). Within the framework of a particular distribution system an individual's access to certain resources will vary, and procurement choices might also vary based on the value system of the individual consumer. The ethnic background and status of a household as well as the cost of certain resources (either in monetary or other terms) might well affect procurement decisions (Reitz 1987b: 105). If the distribution system is based primarily on market transaction (as was the situation in Boston) the amount of disposable income of a food purchaser and the way it is utilized will vary, potentially causing observable differences in assemblage patterning.

As a result of this realization, a more generalized investigation of the functioning of markets has been an important part of many of these studies focusing on socio-economic status manifestations, as well as some other studies of urban assemblages (Landon 1987a; Reitz 1986). To a lesser extent other issues have been examined including urban and rural assemblage differences (Mudar 1978; Reitz 1986), subsistence or foodways patterns (Davidson 1982; Graffam 1982; Henry 1987), butchery patterns (Davidson 1983; Lyman 1977; Schulz and Gust 1983), and patterns of representation in domestic versus wild taxa (Davidson 1982; Henry 1987; Mudar 1978; Pendery 1984; Reitz 1986, 1987a).

One of the advances that has been made is the use of the concept of foodways to provide a framework for examining and understanding the complex food–related decisions that unquestionably were important variables in asemblage formation. The concept of foodways has been used increasingly by historical archaeologists to investigate dietary and food related questions (Blanchette 1981; Deetz 1977; Graffam 1984; Otto 1977). All of these researchers use Anderson's (1971) definition of foodways as the "whole interrelated system of food conceptualization, procurement, distribution, preservation, preparation, and consumption" (1971:29); Graffam (1984:1) adds to this the "discard of garbage and food-related trash." The use of this framework for interpretation of urban faunal assemblages is of particular value because of its breadth and its explicit definition of foodways as a system. To utilize a foodways perspective in research is to take a holistic look at the entire spectrum of food-related activities including a concern for how people conceptualize food, how food is stored or preserved, how food is prepared, and a variety of other issues. This framework is easily applied to the examination of the meat component of the diet. The importance of the foodways concept is that it provides a broad and explicitly systemic framework for the analysis of the actions of humans for faunal assemblages dominated by food–related remains. By including the discard of food-related trash, Graffam adds another dimension to the relevance of this perspective for archaeology. A concern for discard behavior is fundamental to an understanding of site formation processes, a crucial part of the taphonomic history of an assemblage.

Some historical archaeologists have, in fact, recognized that certain contexts produce assemblages of food-related remains that often are patterned in particular ways as a result of specific characteristics of the environment. Undoubtedly the major realization in terms of urban samples has been that the physical environment of the city is such that urban assemblages often have significantly fewer wild animals represented than rural assemblages (Henry 1987; Mudar 1978; Pendery 1984; Reitz 1986, 1987a). A couple of researchers have also tried to deal with the implications of urbanism for patterning in faunal assemblages on a theoretical level (Henry 1987; Mudar 1978). In the most detailed of these, Henry proposes an "urban subsistence pattern" (1987: 19). Although this is quite valuable, it is too particularistic and never adequately considers site formation and taphonomic processes as significant variables influencing assemblage patterning.

Some issues that have not been properly addressed in the study of urban assemblages are also worth investigating. One of the greatest weaknesses of most of the work on urban faunal assemblages is the lack of attention that has been given to interpreting urban faunal assemblages within a theoretical framework that attempts to explain urban process or the implications of urbanism. This is because most of the studies have been archaeology *in* the city versus archaeology *of* the city, where the former "consists of addressing any research question in an urban setting," while the latter "consists of using archaeological methods to contribute to an understanding of the specific processes of urban development" (Staski 1982: 97–8). In addition, although seasonal cycles have been discussed in relation to rural historical sites (e.g. Bowen 1988; Miller 1984), the potential for seasonal cycles in resource use and availability has been only partially examined for urban areas (Landon 1987a). A more sophisticated approach towards comparing and contrasting urban and rural assemblages is also possible. Urban and rural areas did not exist in isolation, and it is likely that an urban area would strongly influence the rural agricultural economy (Maltby 1979: 84). The comparison of urban and rural assemblages need not just investigate the differences but also has potential for elucidating the interrelationship between a city and its hinterland. These types of issues have received considerably more attention from faunal analysts working in other areas of the world (Maltby 1979; Zeder 1984,

1988) than in North America.

The implications of the presence of well developed distribution systems in urban areas is an issue of primary importance that has not been adequately explored. There are a number of different ways aspects of distribution systems might be visible in faunal assemblages. For the majority of the urban residents, some type of processing of the animal will probably have taken place prior to procurement. This might be visible in the pattern of body part representation in urban assemblages, with " an uneven distribution of skeletal parts in favor of meat-bearing elements" (Zeder 1984: 285).

Significant differences might also exist between urban and rural assemblages in terms of the age and sex structure of the animals represented. Animal husbandry geared towards food production will entail a series of choices about animal slaughtering in terms of ages and sexes that might differ from husbandry focused on utilization of domestic animals for non-food uses such as important by-products (hair or hides), transportation, or traction (e.g. Payne 1973). An urban distribution system for animal foods might be dominated by animals husbanded primarily for food production. Faunal assemblages deposited by urban consumers might therefore have a certain degree of uniform patterning in terms of the age and sex structure of the animals represented (Zeder 1984: 285). The type of distributional system in effect might also influence the seasonal availability of certain food resources in a similar manner. The husbandry decisions of rural producers in terms of a seasonal agricultural cycle might not hold for production aimed at meeting the high level of urban demand.

Historical Background

From almost the time of Boston's founding, market transactions of agricultural products were taking place. The commercial success of the city during the 17th century was largely based on trade in agricultural products, as well as fish and naval stores. The waves of immigrants and the population growth of the city provided a ready market for food. "Boston had outgrown its own food resources when the population reached an estimated 1,200 in 1640, a decade after its settlement" (Friedman 1973: 189). Nonetheless, many people were still involved primarily in agricultural pursuits. Fifty years later, when the population had reached an estimated 6,000, "a large part of the land of its broad pennisula was still cultivated by small farmers" (Henretta 1965: 451). By this time, however, the city was starting to become much more densely settled and was taking on a much more commercial character. By 1740, the population was up to about 16,000, the population density had increased greatly, and the farms had disappeared. While it is difficult to derive a comprehensive picture of Boston's food supply, several historical examples help point out the growth of an obvious market orientation and structure.

The Puritan Revolt in England caused the onset of a depression in the colonies, and it was partially in response to this that Boston began to develop its overseas markets for agricultural products that helped to fuel its economic growth during the rest of the 17th century (Rutman 1963; Russell 1976; Clemens 1923). To meet the demands of the city's population for food and at the same time provide agricultural surplus for export required the establishment of a market structure to bring products into the city. The mercantile activities of John Pynchon of Springfield, Massachusetts, while undoubtedly on a larger scale than many of Boston's food suppliers, are good examples. In 1652, Pynchon sent 1500 bushels of wheat to Boston, and in 1654 he began driving cattle to the city (McManis 1975: 92; Clemens 1923: 23). "Between 1662 and 1683 he bought and packed great numbers of hogs, presumably in the main for the West Indian trade " (Clemens 1923: 23–24). Pynchon is only one example of a producer trading agricultural products into Boston. Grain also flowed into the city in large quantities for the payment of taxes (Friedman 1973: 190). Animals were also coming in from a variety of other sources. As early as 1635 domestic stock was being driven to Boston from Portsmouth, New Hampshire, and by "1650, large herds [of cattle] from Lynn, Watertown, and Roxbury were being marketed in Boston" (McManis 1975: 94).

"The channels through which the daily food supply reached the inhabitants of colonial Boston are nowhere clearly described" (Friedmann 1973: 189), and it is difficult to get a clear idea of the exchange mechanisms and procurement activities of the residents. Certain characteristics, however, have been suggested, and several of these are important. Small-scale procurement of indigenous foodstuffs for the household based on market exchange seems to have been common, and most of this seems to have been organized around small-scale producers or processers as opposed to general retailers (Friedman 1973: 204–5). Street vendors also probably played an important role in food distribution (Pendery 1984: 13). Government intervention seems to have been aimed primarily at protecting the residents through standardization of weight and measures and a certain degree of quality control (Friedman 1973: 204–5). Several other characteristics of food distribution have been suggested, but the overall pattern is rather sketchy. Archaeological materials, particularly faunal remains, have the potential to help significantly expand our understanding of these issues.

The potential for a seasonal cycle in the availability of different food sources is relevant to the examination of the relationship between food consumers and producers, the type of internal distribution mechanisms within Boston, and animal husbandry and procurement decisions. Certain resources will be more easily acquired at certain times of the year, and preservation is closely related to this issue, as seasonally available resources must be somehow preserved in order to be accessible out of season. A variety of sources all seem to present a similar pattern for seasonal husbandry and meat procurement practices in colonial New England (Bowen 1988; McMahon 1981; Worlidge 1675). The beginning of winter was the primary time for the slaughter of cattle and swine, and some of this meat, especially the pork, was salted for consumption during the end of winter and into the spring. Non-domestic fish and fowl were also included in the diet during the winter and through the spring. The summer was marked by relatively low meat intake, although calves were occasionally consumed, until the slaughter of sheep began in early autumn. If urban asemblages give indications of a different or less distinct seasonal cycle in husbandry and meat availability, this would have implications for understanding the development of distribution and procurement patterns in an urban area and their relationship to traditional patterns of rural husbandry.

The Faunal Collection

A total of 4764 faunal remains were recovered during the Phase II testing for the Central Artery/Third Harbor Tunnel project. The distribution of this material by site is shown in Table A.1. There is obviously an extremely large variation in the amount of material recovered from different test sites, and several interesting points can be made about this distribution. Although some of the apparent variation is unquestionably the result of choices made during the excavation, such as sampling strategy, there is a clear variation in the quantity of material recovered by site type. The three wharf sites (TC01, TC02, SC02) and the railroad roundhouse (SB10) together account for less than 1% of the total faunal material recovered. Looking more closely at the specific contexts from which faunal material was recovered at the other sites is interesting. In particular, the disparity between the two test trenches in Study Block MP01 is informative. Fully 79.3% of the total faunal material recovered from Trench A was from the fill sequence (CU 20/21, 27,28,29) and the deposits immediately above the fill (CU 9/18/19). All of this material was apparently domestic refuse, something clearly lacking, along with faunal material, from Trench B in the same block. The variation in the quantity of faunal material among the sites and between the two trenches in MP01 seems to suggest that an abundance of faunal material might be indicative of a domestic origin for a refuse deposits.

As seen in Table A.1, the single largest collection of faunal remains was from Study Block NE03, Trench C, which contained two significant sites, the Paddy's Alley Backlot Site and the Cross Street Backlot Site. As a result of the large quantity of faunal material found at the Paddy's Alley Backlot Site, especially, a portion of this material was analyzed in greater detail. In particular, the faunal material from the late 17th-/early 18th-century levels (CU 15, 29, 32, 43) was studied to allow for a more precise assessment of the potential value of this material to archaeological study of this area.

The analysis of the faunal assemblage from CU 15, 29, 32, and 43 began with sorting by class and, for the mammalian remains, by body part. Each identified fragment was bagged separately with an information card that detailed a series of observations. Small fragments that appeared to lack diagnostic attributes were bagged together by catalogue number and designated NID (not identified). Bones that are difficult to identify such as ribs, long bone shaft fragments, vertebrae, and cranial fragments were bagged together by catalogue number and size. The size catagories used were defined numerically and were the best estimate of the size of the animal from which the bone came. This category was recorded for all the bones possible, though it was most important in instances when it was not possible to make a genus level or more specific identification. It must be pointed out that numerous factors can affect the bones and influence the accuracy of the size categorization. Size categories were used exclusively for mammalian remains.

Size Categories
Size 1—Small. Smaller than a rabbit.
Size 2—Small/Medium. Rabbit to medium dog.
Size 3—Medium. Medium dog to medium pig.
Size 4—Medium/Large. Medium pig to small domestic cattle.
Size 5—Large. Small domestic cattle and larger.

Specific categories were also established for burn stages and butchery marks.

Burn Stages
Stage 1 = partially grey or black
Stage 2 = totally grey or black
Stage 3 = totally grey or black, partially white
Stage 4 = totally white

In situations where more than one bone was recorded on a single card, the total number of occurances of each burn stage was recorded. Since butchery was considered to be an important category, five different types of butchery marks were defined. For each bone the total number of each type of butchery mark was recorded.

Butchery Marks
Scrape—a straight mark on the bone that does not gouge
Cut—a straight mark on the bone that gouges the surface
Chop—a cut that removes a section of the bone
Shear—a chop that goes through a portion of the bone leaving a straight edge
Saw—a series of parallel striations caused by a toothed cutting instrument

It should be noted that only a saw definitely implies the use of a different tool, as all the other marks could conceivably be made with the same tool applied with differential force. Further, some marks might be caused by a saw which for any number of reasons (particularly decomposition in the ground) leaves no visible striations on the bone. Some of the more questionable butchery marks were examined with a Bausch and Lomb low power microscope.

Identification was based on a wide variety of written sources (Gilbert 1980; Gustafson and Brown 1979; Harvey et. al 1968; Olsen 1964, 1979; Schmid 1972; Sisson and Grossman 1953) as well as comparative material at Boston University. When a positive identification was not entirely possible "cf." or probable identifications were made; these are recorded as such in the appended catalogue. One of the most difficult distinctions to make is between sheep and goat remains and a composite category, sheep/goat (*Ovis/Capra*), was used when it was not possible to differentiate a particular fragment.

A variety of compromises were made to simplify the procedures for the analysis. The major focus was on diagnostic elements, and little effort was made to make specific identification for rib, cranial, vertebral, or long bone shaft fragments. The most intensive work was on the vertebrate remains; no quantification was done of the different types of bivalves represented. With the vertebrate remains the mammals received the most attention; only a small number of the bird bones were identified and no attempt was made to identify the few fish remains (see Table A.2). Several potentially interesting observations were not made of the material. Symmetry was only sporadically recorded and none of the bones were individually weighed or measured. Only limited attention was given to attributes applicable to determining the age of animals at the time of death; fusion states are reported in the attached faunal catalogue but no work was done on tooth eruption or wear and no real discussion of the age categories of animals is included. The appended catalogue presents virtually all of the information recorded during the analysis.

The general breakdown of the analyzed assemblage is shown in Table A.2. Almost two-thirds (65.3%) of the sample was mammal remains; smaller quantities of bivalves, bird and fish were also present. The bivalves were not quantified by type, but the collection of shellfish remains was clearly dominated by Eastern Oyster (*Crassotrea virginica*). Soft shell clam (*Mya arenaria*) and at least one species of mussel (*Mytilidae*) were also identified. No attempt was made to identify the fish.

Four different types of bird were identified: chicken (*Gallus gallus*), turkey (*Melegris gallapavo*), pigeon or dove (*Columbidae*) and an unspecified small perching bird (*Passeriformes*) even though only a small proportion (ca. 15%) of the bird bones were identified. The bird remains clearly represent one area that would have a great deal of potential for further analysis. Bird remains made up close to 8% of the total analyzed assemblage and might well provide the broadest view of the use of non-domestic sources of meat, environmental conditions in the city, and perhaps even the seasonal use of particular resources. The recovery of a more extensive faunal collection as a part of further excavation in this area would be particularly useful because it might provide a more comprehensive view of the range of domestic and non-domestic birds consumed in Colonial Boston.

The largest proportion of the sample was mammal remains, over two-thirds (68.8%) of which were identified at least to body part and size category (Table A.2). Four different mammals were identified: cow (*Bos taurus*), pig (*Sus scrofa*), sheep (*Ovis aries*), and white tailed deer (*Odocoileus virginianus*). No bones were positively identified as goat, but a large number of fragments were identified as sheep/goat (*Ovis/Capra*) due to the difficulties of distinguishing sheep and goat. The body part distribution of the different species and size categories is shown in Table A.3. The body part distribution for the species represented should not be taken as final, since at least some of the bones listed only as a particular size category could probably be identified as a particular species with more work. Even with this caveat, several points can be made. To start, the major domestic mammals are all well represented. The only non-domestic mammal identified was white tailed deer, represented by a single radius and metacarpal bone. Both of the deer bones also had butchery marks on them, adding support to the idea that the animal was consumed. The small number of bones of non-domestic mammals shows that most of the meat consumed came from common domestic mammal species. Given the size of the sample and the level of analysis performed, it would be difficult to formulate any valid ideas about the relative importance of the different domestic animals.

The combined distribution of body part representation for all the identified mammalian remains is shown in the last column of Table A.3. By far the best represented body parts are vertebrae, ribs, and long bone shaft fragments. This is not surprising since vertebrae and ribs are both represented by a large number of bones in an individual animal's body and the category long bone shaft fragment encompasses a variety of possible elements. The apparently large number of skull fragments is also deceptive; a single skull is comprised of a large number of different bones and easily breaks into a number of pieces, most of which can still be identified as cranial fragments. A more accurate view of body part distribution would be possible if minimum numbers of animal units were examined with adjustment for differential body part representation. Even with these problems it is possible to see certain aspects of body part distribution that might be related to an urban marketing system. The upper portions of both the rear and fore limb are disproportionally well represented compared to the lower limb; this is particularly true for the hind limb (Table A.3). There were also a small number of phalages, carpals, and tarsals, although these bones are quite numerous in the species identified and often survive well in the archaeological record due to their density. It is entirely possible that these head and foot bones are not well represented because some dismemberment and division of the animal carcass took place before select portions of the animals were acquired for consumption. This idea will be discussed further below with reference to the butchery mark location.

Only eight bones (0.9% of the total number of fragments [TNF]) had evident rodent damage, and none of the bones showed any indication of carnivore gnawing. A total of 31 fragments (3.9% of TNF) were burned and most of these were totally calcined (Table A.4). Four of these burned fragments were long bone shaft fragments and the rest were small unidentified fragments. In all likelihood the burned fragments of bone represent small bone scraps tossed into a fire and later deposited on the site.

By far the most significant type of modification to the bones was butchery (Table A.5). A total of 125 bones (15.6% of TNF) had at least one butchery mark and 41 of these (5.1% of TNF) had multiple butchery marks. The multiple butchery marks were as follows: 17 bones had 2 butchery marks, 11 bones had 3, 9 bones had 4, and 3 bones had 5 or more butchery marks.

Analysis of butchery marks is one aspect of historical faunal analysis that has not been adequately addressed (Lyman 1977). Although only a preliminary analysis of the butchery marks has been completed, several interesting points can be made. A small number of the bones in this sample had very distinctive striations left by a saw (Table A.5) and several of these were in deposits dating to the late 17th or early 18th century. This appears to predate the use of saws for butchery on rural New England sites by more than 50 years (Deetz 1977: 125). One possible explanation that warrants further investigation is that saws might have been used as a butchery tool earlier in urban areas to facilitate finer scale and more accurate butchery.

The two most common types of butchery marks in this assemblage are scrapes and shears (Table A.5) which together account for almost 70% of the total butchery marks observed. It is possible that these two categories might represent different types of activities, with shears resulting from butchery to divide the carcass into particular portions and scrapes resulting from butchery activities tied more closely to preparation and consumption. This could be investigated through a detailed analysis of the location and orientation of specific butchery marks and could potentially provide valuable information about different aspects of animal butchery and meat preparation.

Although it is beyond the scope of this paper to look in detail at butchery mark location, even a rudimentary examination of butchery mark distribution is informative, especially when combined with an examination of body part distribution. Figure A.1 graphically presents the body part distribution by fragment count and the number of butchery marks for all of the sheep (*Ovis aries*), sheep/goat (*Ovis/Capra*), and unspecified medium mammal remains from CU 15 and 32. Several interesting points can be made about the patterns visible. In terms of body part distribution, the meatiest parts of the animal predominate, namely the body and upper limbs. Some of the long bone shaft fragments are probably also from one of the upper limbs. Less meaty parts, such as the head and lower limbs, are much less well represented. As discussed above, this type of body part distribution might be related to an urban distribution system geared towards the meat–bearing portions of the carcass.

The distribution of butchery marks is even more striking in this example. The upper hind limb constitutes only 11% of the bone fragments yet 42% of the butchery marks occured in this region, clearly showing intensive butchery of one of the meatiest sections of the animal. In fact, the body, upper fore limb, and upper hind limb, while accounting for only 44.5% of the bone fragments included in this sample, together had 78.4% of the observed butchery marks. Although this is a simple example, it does show the potential value of this material for investigating complex issues related to the nature of urban distribution systems and patterns of animal utilization and butchery.

Conclusions

Although only a preliminary analysis of the faunal material from the Paddy's Alley Backlot Site (NE03, Trench C) has been completed, the potential value of this material is clear. Many aspects of the food supply and distribution system in Boston are still relatively poorly known. Archaeological materials, especially faunal remains, offer one of the best possible sources of information about this complex issue. Analysis of faunal material can provide information about changes in the environment of Boston, the use of non-domestic food sources, and historical husbandry practices. In addition, this material clearly has the potential to broaden our understanding of the market system for food in Colonial Boston, and to provide specific information about butchery practices and food preparation and consumption in an urban environment. The major domestic food mammals – cow, pig, and sheep/goat – are all well represented and deer bones were also identified in the sample. Four different birds are represented – turkey, chicken, pigeon or dove, and an unidentified perching bird – and further analysis of this material has the potential to increase our understanding of the use of non-domestic food sources in Colonial Boston. The preservation conditions for faunal material in Trench C seem to have been excellent and a large proportion of the assemblage was identified. The faunal assemblage from Trench C consisted of 2031 fragments (42.6% of the Phase II total), the largest assemblage of any of the test sites. The particular deposits examined were quite rich in faunal remains and contained almost 40% of the total faunal material recoverd from Trench C. Both quantitatively and qualitatively the material examined has a great deal of potential to address important research questions and provide insight into urban foodways in Boston.

Catalog of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43.

Key

CU: contextual unit number.

grd: grid square.

Quan: quantity.

Class: M = mammalia, P = pisces, AV = aves.

Sz: Size 1—Small. Smaller than a rabbit.
Size 2—Small/Medium. Rabbit to medium dog.
Size 3—Medium. Medium dog to medium pig.
Size 4—Medium/ Large. Medium pig to small domestic cattle.
Size 5—Large. Small domestic cattle and larger.

Element: 1–skull, 2–mandible, 3–vertebra, 4–rib, 5–pelvis, 6–scapula, 7–humerus, 8–radius, 9–ulna, 10–carpal, 11–metacarpal, 12–femur, 13–tibia, 14–fibula, 15–tarsals, 16–metatarsals, 17–phalanges, 18–loose tooth, 19–long bone shaft fragment, 20–unidentified metapodial, 21–NID, 22–coracoid, 23–tibiotarsus.

P– proximal; f–fused, u–unfused.
D–distal; f–fused, u–unfused.

Burn- stage-number
Burn Stages
1 = partially grey or black
2 = totally grey or black
3 = totally grey or black, partially white
4 = totally white

RD–rodent damage (number).

SC–scrape–a straight mark on the bone that does not gouge
CT–cut–a straight mark on the bone that gouges the surface
CH–chop–a cut that removes a section of the bone
SH–shear–a chop that goes through a portion of the bone leaving a straight edge
SW–saw–a series of parallel striations caused by a toothed cutting instrument
The number of occurences of each type of butchery mark was recorded.

Comments (abbreviations used)
epiph.–ephiphysis
decid.–deciduous
ast.–astragalus
butch.–butchery
lse tth.–loose tooth

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
15	d	1	AV		-	21	-	-	-	-	-	-	-	-	-	
15	d	2	AV		-	21	-	-	-	-	-	-	-	-	-	
15	j	7	AV		-	21	-	-	-	-	-	-	-	-	-	
15	j	2	AV		-	21	-	-	-	-	-	-	-	-	-	
15	j	1	AV		-	21	-	-	-	-	-	-	-	-	-	
15	d	2	AV	Columbidae	-	7	-	-	-	-	-	-	-	-	-	
15	j	1	AV	*Gallus gallus*	-	22	-	-	-	-	-	-	-	-	-	
15	d	2	AV	Passeriformes	-	22	-	-	-	-	-	-	-	-	-	coracoid
15	j	6	M		-	21	-	-	-	-	-	-	-	1	-	
15	h	5	M		-	21	-	-	3-1	-	-	-	-	-	-	
15	j	1	M		-	21	-	-	-	-	1	-	-	-	-	
15	j	1	M		-	21	-	-	-	1	-	-	-	-	-	
15	d	1	M		2	3	-	-	-	-	-	-	-	-	-	
15	j	3	M		3	1	-	-	-	-	-	-	-	-	-	
15	j	1	M		3	12	u	-	-	-	-	-	-	-	-	proximal epiph.
15	d	1	M		3	12	-	-	-	-	-	-	1	-	-	
15	d	1	M		3	12	-	-	-	-	1	-	-	-	-	
15	d	1	M		3	12	u	-	-	-	-	-	-	-	-	epiph.
15	j	1	M		3	16	-	-	-	-	-	-	-	-	1	
15	j	4	M		3	19	-	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
15	h	5	M		3	19	-	-	-	-	-	-	-	-	-	
15	j	1	M		3	19	-	-	-	-	-	-	-	-	-	
15	j	3	M		3	19	-	-	-	-	-	-	-	1	-	
15	d	6	M		3	20	f	u	-	-	1	1	-	-	-	mends, old break
15	j	4	M		3	3	-	-	-	-	-	-	-	2	-	
15	j	1	M		3	3	-	-	-	-	-	-	-	1	-	
15	j	1	M		3	3	-	-	-	-	-	-	-	2	-	
15	j	1	M		3	4	-	-	-	-	-	1	-	-	-	
15	h	1	M		3	4	-	-	-	-	-	-	-	-	-	
15	d	2	M		3	5	-	-	-	-	-	-	1	-	-	
15	d	1	M		3	6	-	-	-	1	-	-	-	-	-	
15	j	1	M		3	7	u	-	-	-	-	-	4	-	-	
15	j	1	M		3	8	-	u	-	-	-	-	-	-	-	
15	d	1	M		3	9	-	-	-	-	-	-	-	-	-	
15	d	1	M		4	12	-	-	-	-	-	-	-	-	-	distal epiph.
15	h	1	M		4	18	-	-	-	-	-	-	-	-	-	root frag.
15	j	1	M		4	2	-	-	-	-	-	-	-	-	-	
15	j	1	M		4	20	-	-	-	-	-	-	-	-	-	
15	j	2	M		4	3	-	-	-	-	-	-	-	1	-	
15	j	2	M		4	4	-	-	-	-	4	-	-	-	-	2 SC each

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
15	j	2	M		5	19	-	-	-	-	-	-	-	-	-	
15	j	1	M		5	3	-	-	-	-	-	1	-	-	-	
15	h	1	M		5	3	-	-	-	-	-	-	-	-	-	
15	d	1	M	*Bos taurus*	4	15	-	-	-	-	-	-	-	-	-	
15	j	1	M	*Bos taurus*	5	15	-	-	-	-	-	-	-	1	-	
15	d	1	M	*Bos taurus*	5	18	-	-	-	-	-	-	-	-	-	
15	g	2	M	*Bos taurus*	5	18	-	-	-	-	-	-	-	-	-	
15	j	1	M	*Bos taurus*	5	2	-	-	-	-	-	-	-	-	-	incisor
15	j	2	M	*Bos taurus*	5	3	-	-	-	-	1	-	-	1	1	SC/SH on one
15	j	1	M	Caprid	3	12	u	-	-	-	2	-	-	-	-	
15	g	1	M	Caprid	3	15	f	f	-	1	-	-	-	-	-	ast.
15	j	1	M	Caprid	3	17	f	f	-	1	-	-	-	-	-	
15	d	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	dp4
15	d	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	lse. tth.
15	j	1	M	Caprid	3	5	-	-	-	-	1	-	-	-	-	
15	h	2	M	Caprid	3	6	-	1 f	-	-	-	-	-	-	-	
15	j	2	M	cf. *Bos taurus*	5	3	-	-	-	-	2	-	1	3	-	1 SH on one, rest on other
15	g	1	M	cf. *Odocoileus*	4	8	-	f	-	-	-	-	1	-	-	left
15	j	1	M	*Ovis aries*	3	13	f	-	-	-	-	-	-	-	-	
15	j	1	M	*Ovis aries*	3	7	-	f	-	1	-	2	1	1	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
15	d	1	M	*Sus scrofa*	2	12	-	u	-	-	-	-	1	-	-	very young
15	d	1	M	*Sus scrofa*	2	7	-	u	-	-	-	-	-	-	-	very young
15	j	1	M	*Sus scrofa*	3	12	u	-	-	-	-	-	-	-	-	
15	j	1	M	*Sus scrofa*	3	18	-	-	-	-	-	-	-	-	-	decid.
15	j	1	M	*Sus scrofa*	3	2	-	-	-	-	-	-	-	-	-	dp3, dp4, M1
15	g	2	M	*Sus scrofa*	4	1	-	-	-	-	-	-	-	-	-	C, I1, lse. tth.
15	j	1	M	*Sus scrofa*	4	1	-	-	-	-	-	-	-	-	-	M3, no wear
15	j	1	M	*Sus scrofa*	4	16	f	u	-	-	-	-	-	-	-	Mt IV
15	j	1	M	*Sus scrofa*	4	17	f	f	-	-	-	-	-	-	-	
15	d	4	P		-	21	-	-	-	-	-	-	-	-	-	
15	d	1	P		-	21	-	-	-	-	-	-	-	-	-	
15	g	1	P		-	3	-	-	-	-	-	-	-	-	-	
15	j	1	P		-	3	-	-	-	-	-	-	-	-	-	
15	d	3	P		-	3	-	-	-	-	-	-	-	-	-	
29	d	1	AV		-	21	-	-	-	-	-	-	-	-	-	
29	d	1	AV		-	21	-	-	-	-	-	-	-	-	-	
29	d	2	AV		-	21	-	-	-	-	-	-	-	-	-	
29	h	4	M		-	21	-	-	-	-	-	-	-	-	-	
29	h	13	M		-	21	-	-	4-7	-	-	-	-	-	-	
29	g	1	M		-	21	-	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
29	d	1	M		3	12	-	u	-	-	-	1	-	-	-	
29	d	1	M		3	13	-	u	-	-	-	3	-	-	-	
29	d	1	M		3	18	-	-	-	-	-	-	-	-	-	deformed
29	h	3	M		3	19	-	-	-	-	-	1	1	-	-	
29	d	1	M		3	8	-	-	-	-	-	-	-	-	-	
29	d	1	M		3	8	-	-	-	-	-	-	-	1	-	
29	d	1	M	*Bos taurus*	5	18	-	-	-	-	-	-	-	-	-	
29	h	1	M	*Bos taurus*	5	2	-	-	-	-	-	-	-	-	-	L
29	g	1	M	Caprid	3	11	-	-	-	-	-	-	-	-	-	
29	h	1	M	Caprid	3	15	f	f	-	1	-	-	-	-	-	ast.
29	h	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	incisor
29	h	1	M	Caprid	3	5	-	-	-	-	2	2	-	-	-	
29	h	1	M	cf. Caprid	3	8	-	-	-	-	-	2	-	-	-	
29	h	1	M	*Ovis aries*	3	13	f	-	-	-	-	1	-	-	-	
29	g	1	M	*Ovis aries*	3	15	u	f	-	-	-	-	-	-	-	ast.
29	d	1	M	*Sus scrofa*	3	2	-	-	-	-	-	-	-	-	-	M1
29	d	2	M	*Sus scrofa*	4	18	-	-	-	-	-	-	-	-	-	
29	d	1	P		-	3	-	-	-	-	-	-	-	-	-	
32	d	2	AV		-	21	-	-	-	-	-	-	-	-	-	
32	h	1	AV		-	21	-	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	d	2	AV		-	21	-	-	-	-	-	-	-	-	-	
32	d	2	AV		-	21	-	-	-	-	-	-	-	-	-	
32	d	4	AV		-	21	-	-	-	-	-	-	-	2	-	
32	d	4	AV		-	21	-	-	-	-	-	-	-	-	-	
32	d	11	AV		-	21	-	-	-	-	-	-	-	-	-	
32	d	4	AV		-	21	-	-	-	-	-	-	-	-	-	
32	d	1	AV		-	21	-	-	-	-	-	-	-	-	-	
32	g	6	AV		-	21	-	-	-	-	-	-	-	-	-	
32	d	1	AV	cf. *Gallus gallus*	-	7	-	-	-	-	-	-	-	-	-	
32	g	1	AV	*Gallus gallus*	-	7	-	-	-	-	-	-	-	-	-	
32	d	1	AV	*Melegris gallapavo*	-	22	-	-	-	-	-	-	-	-	-	
32	d	1	AV	*Melegris gallapavo*	-	23	-	-	-	-	-	-	-	-	-	
32	g	27	M		-	21	-	-	4-2	-	1	-	-	3	-	
32	d	19	M		-	21	-	-	4-5	-	-	-	-	3	-	
32	d	21	M		-	21	-	-	-	-	-	-	-	2	-	
32	d	23	M		-	21	-	-	4-9	-	-	-	-	1	-	
32	d	18	M		-	21	-	-	4-1	-	-	-	-	-	-	
32	d	12	M		-	21	-	-	4-2	-	-	-	-	1	-	
32	g	4	M		-	21	-	-	-	-	-	-	-	-	-	
32	d	5	M		-	21	-	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	g	1	M		-	21	-	-	-	-	-	-	-	-	-	
32	g		M		-	21	-	-	-	-	-	-	-	-	-	
32	d	1	M		2	1	-	-	-	-	-	-	-	-	-	
32	g	1	M		2	1	-	-	-	-	-	-	-	-	-	
32	g	1	M		2	12	-	-	-	-	-	-	-	-	-	epiph.
32	d	1	M		2	19	-	-	-	-	-	-	-	-	-	
32	d	4	M		2	19	-	-	-	-	-	-	-	-	-	
32	g	1	M		2	3	-	-	-	-	-	-	-	1	-	
32	g	1	M		2	4	-	-	-	-	-	-	-	1	-	
32	g	1	M		2	5	-	-	-	-	-	-	-	-	-	
32	g	1	M		2	7	-	-	-	-	-	2	-	-	-	
32	d	3	M		3	1	-	-	-	-	-	-	-	-	-	
32	d	1	M		3	1	-	-	-	-	-	-	-	-	-	
32	d	2	M		3	1	-	-	-	-	-	-	-	-	-	
32	d	3	M		3	1	-	-	-	-	-	-	-	1	-	
32	d	1	M		3	12	-	u	-	-	-	-	-	-	-	distal epiph.
32	d	1	M		3	12	u	-	-	-	-	-	-	-	-	proximal
32	d	1	M		3	12	-	u	-	-	-	-	-	1	-	distal epiph.
32	d	1	M		3	13	-	u	-	-	-	-	-	-	-	
32	d	1	M		3	17	u	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	g	6	M		3	19	-	-	-	-	-	-	-	-	-	
32	d	7	M		3	19	-	-	4-2	-	-	-	-	-	-	
32	d	5	M		3	19	-	-	-	-	-	-	-	-	-	
32	h	5	M		3	19	-	-	-	-	-	-	-	-	-	
32	d	4	M		3	19	-	-	3-1	-	-	-	-	-	-	2 mend
32	d	3	M		3	19	-	-	-	-	-	-	-	-	-	
32	d	3	M		3	19	-	-	-	-	-	-	-	-	-	
32	d	1	M		3	2	-	-	-	-	-	-	-	-	-	hyoid
32	g	1	M		3	20	-	-	-	-	1	-	-	1	-	
32	d	1	M		3	20	-	-	-	1	-	-	-	-	-	
32	g	4	M		3	21	-	-	-	-	-	-	-	2	-	
32	d	3	M		3	3	-	-	-	-	2	-	-	2	-	all butch. marks on one
32	h	1	M		3	3	-	-	-	-	-	-	-	1	-	
32	g	3	M		3	4	1f	-	-	-	-	-	-	2	-	
32	d	1	M		3	4	-	-	-	-	1	-	-	-	-	
32	d	2	M		3	4	-	-	-	-	-	-	-	1	-	
32	d	8	M		3	4	-	-	-	-	-	1	-	-	-	
32	g	1	M		3	4	-	-	-	-	-	-	-	-	-	
32	d	2	M		3	4	-	-	-	-	-	-	-	-	-	
32	d	5	M		3	4	-	-	-	-	-	1	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	h	1	M		3	5	-	-	-	1	-	-	-	-	-	
32	g	1	M		3	5	-	-	-	-	3	-	-	1	-	
32	g	1	M		3	6	-	-	-	-	1	-	-	-	-	
32	d	3	M		3	6	-	-	-	-	-	-	-	-	-	blade frags.
32	d	1	M		3	7	u	-	-	-	-	-	-	-	-	
32	h	1	M		3	7	-	-	-	-	-	-	-	1	-	epiph.
32	d	1	M		3	7	-	-	-	-	-	-	-	-	-	
32	g	3	M		3	8	-	-	-	-	-	2	-	-	1	all butch. marks on one
32	h	1	M		4	1	-	-	-	-	-	-	-	-	-	
32	g	2	M		4	19	-	-	-	-	-	-	-	-	-	
32	h	1	M		4	19	-	-	-	-	-	-	-	-	-	
32	d	3	M		4	19	-	-	4-1	-	1	-	-	-	-	
32	d	1	M		4	19	-	-	-	-	-	-	-	-	-	
32	d	1	M		4	19	-	-	-	-	-	-	-	-	-	
32	d	3	M		4	19	-	-	-	-	4	-	-	-	-	all SH on one
32	d	1	M		4	20	-	-	-	-	-	-	-	-	-	
32	g	2	M		4	3	-	-	-	-	-	-	-	-	-	
32	d	1	M		4	3	-	-	-	-	-	-	-	-	-	
32	h	1	M		4	3	-	-	-	-	-	-	1	1	-	
32	g	1	M		4	3	-	-	-	-	-	-	-	-	-	dorsal spine

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	d	2	M		4	3	-	-	-	-	-	-	-	3	-	2 SH on one
32	d	1	M		4	3	-	-	-	-	-	-	-	1	-	
32	g	2	M		4	4	-	-	-	-	-	1	-	-	-	
32	d	1	M		4	4	-	-	-	-	-	-	-	-	-	
32	h	1	M		4	4	-	-	-	-	-	-	-	-	-	
32	d	2	M		4	4	-	-	-	-	-	-	-	-	-	
32	d	2	M		4	4	-	-	-	-	1	3	-	1	-	1 CT on one, rest on other
32	g	5	M		5	19	-	-	-	-	2	-	-	-	-	
32	d	2	M		5	19	-	-	-	-	-	-	-	-	-	
32	h	1	M		5	19	-	-	-	-	-	-	-	-	-	
32	d	2	M		5	19	-	-	-	-	-	-	-	-	-	
32	d	1	M		5	19	-	-	-	-	-	-	-	-	-	
32	d	2	M		5	19	-	-	-	-	4	1	-	-	-	CT on one, 4 SC on other
32	g	2	M		5	19	-	-	-	-	-	-	-	-	-	
32	d	2	M		5	19	-	-	-	-	-	-	-	-	-	
32	d	1	M		5	19	-	-	-	-	-	-	-	-	-	
32	d	2	M		5	19	-	-	-	-	-	1	-	1	-	
32	h	1	M		5	3	-	-	-	-	-	-	-	1	-	
32	d	3	M		5	3	-	-	-	-	-	-	-	3	-	
32	g	5	M		5	4	-	-	-	-	1	-	-	1	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	d	2	M		5	4	-	-	-	-	-	-	-	-	-	
32	g	2	M		5	4	-	-	-	-	5	1	-	-	-	mend
32	d	2	M		5	4	-	-	-	-	-	1	-	2	-	
32	d	1	M		5	4	-	-	-	-	-	-	-	-	-	
32	d	1	M		5	4	-	-	-	-	1	1	-	-	-	
32	d	1	M	Artiodactyla	3	7	f	-	-	-	1	-	-	-	-	
32	d	1	M	*Bos taurus*	4	17	f	f	-	-	-	-	-	-	-	Ph 2
32	g	1	M	*Bos taurus*	4	9	u	-	-	-	-	-	-	-	1	
32	g	1	M	*Bos taurus*	5	1	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Bos taurus*	5	1	-	-	-	-	-	-	-	-	-	
32	g	1	M	*Bos taurus*	5	13	u	-	-	-	3	-	-	-	-	epiph.
32	d	1	M	*Bos taurus*	5	15	-	f	-	-	-	-	1	-	-	ast.
32	g	3	M	*Bos taurus*	5	17	-	-	-	-	-	-	-	-	-	2 Ph 3, 1 Ph 2, all totally fused
32	d	1	M	*Bos taurus*	5	17	f	f	-	-	-	-	-	-	-	Ph 1
32	g	1	M	*Bos taurus*	5	18	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Bos taurus*	5	18	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Bos taurus*	5	18	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Bos taurus*	5	2	-	-	-	-	-	1	-	-	-	
32	g	4	M	*Bos taurus*	5	2	-	-	-	-	-	-	-	-	-	incisors
32	d	1	M	*Bos taurus*	5	2	-	-	-	-	-	-	-	-	-	incisor

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	d	1	M	*Bos taurus*	5	2	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Bos taurus*	5	2	-	-	-	-	-	-	-	-	-	incisor
32	d	1	M	*Bos taurus*	5	3	-	-	-	-	-	-	-	1	-	thoracic
32	g	1	M	*Bos taurus*	5	3	-	-	-	-	-	2	-	1	-	sternum
32	d	1	M	*Bos taurus*	5	3	-	-	-	-	-	-	-	2	-	atlas
32	d	1	M	*Bos taurus*	5	7	u	-	-	-	-	-	-	-	-	
32	h	1	M	*Bos taurus*	5	7	-	f	-	-	-	-	-	2	-	
32	d	1	M	*Bos taurus*	5	7	-	f	-	-	-	-	-	1	-	
32	d	1	M	*Bos taurus*	5	8	-	f	-	-	-	-	-	1	1	
32	d	1	M	*Bos taurus*	5	9	-	-	-	-	-	-	-	2	-	
32	d	1	M	Caprid	3	1	-	-	-	-	-	-	-	-	-	male
32	d	1	M	Caprid	3	1	-	-	-	-	-	-	-	-	-	lse. tth.
32	d	1	M	Caprid	3	11	f	-	-	-	-	-	-	-	-	
32	d	1	M	Caprid	3	12	-	f	-	-	3	-	-	-	-	multiple mends
32	d	1	M	Caprid	3	12	-	f	-	-	8	-	-	1	-	
32	g	1	M	Caprid	3	13	-	f	-	-	3	-	-	-	-	
32	d	1	M	Caprid	3	13	-	u	-	-	-	-	-	-	-	distal epiph.
32	d	1	M	Caprid	3	17	f	f	-	-	-	-	-	-	-	
32	d	1	M	Caprid	3	17	u	f	-	-	-	-	-	-	-	
32	d	1	M	Caprid	3	18	-	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	h	2	M	Caprid	3	18	-	-	-	-	-	-	-	-	-	
32	d	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	
32	d	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	lse. tth.
32	d	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	M3, lse. tth.
32	d	1	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	R, P2-M2.
32	d	4	M	Caprid	3	2	-	-	-	-	-	-	-	-	-	incisors
32	d	1	M	Caprid	3	5	-	-	-	-	-	3	-	1	-	
32	h	1	M	Caprid	3	6	-	-	-	-	-	-	-	-	-	
32	d	1	M	Caprid	3	8	f	-	-	-	-	-	-	-	1	
32	d	1	M	cf. *Bos taurus*	4	16	u	u	-	-	-	-	-	-	-	very young
32	d	1	M	cf. *Bos taurus*	5	12	-	-	-	-	-	-	-	-	-	
32	d	1	M	cf. *Bos taurus*	5	2	-	-	-	-	2	1	-	-	-	hyoid
32	g	1	M	cf. *Bos taurus*	5	3	-	-	-	-	-	-	-	2	-	
32	d	1	M	cf. Caprid	3	3	-	-	-	-	-	-	-	-	-	axis
32	g	1	M	cf. *Ovis aries*	3	9	f	-	-	-	-	-	-	-	-	articular surface fused
32	g	1	M	cf. *Sus scrofa*	4	1	-	-	-	-	-	-	-	1	-	
32	d	1	M	cf. *Sus scrofa*	4	17	u	f	-	-	-	-	-	-	-	Ph 1
32	d	1	M	cf. *Sus scrofa*	4	2	-	-	-	-	3	-	-	-	-	
32	d	1	M	*Odocoileus virginianus*	3	11	f	-	-	-	-	1	-	-	-	
32	g	2	M	*Ovis aries*	3	11	2f	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
32	d	1	M	*Ovis aries*	3	11	f	-	-	-	2	1	-	-	-	
32	d	1	M	*Ovis aries*	3	11	f	-	-	-	-	-	-	-	-	
32	d	1	M	*Ovis aries*	3	12	f	f	-	-	9	3	-	-	-	mends, fresh break
32	g	1	M	*Ovis aries*	3	15	u	f	-	-	1	-	-	-	-	ast.
32	d	1	M	*Ovis aries*	3	16	f	-	-	-	1	-	-	-	-	
32	d	2	M	*Ovis aries*	3	3	-	-	-	-	-	-	-	1	-	atlases
32	g	1	M	*Ovis aries*	3	6	-	f	-	-	-	-	-	-	-	
32	d	1	M	*Ovis aries*	3	7	-	f	-	-	1	2	-	-	-	
32	d	1	M	*Sus scrofa*	3	2	-	-	-	-	-	-	-	-	-	incisor
32	h	1	M	*Sus scrofa*	3	5	-	-	-	-	-	-	-	-	-	unfused acet.
32	d	1	M	*Sus scrofa*	4	1	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Sus scrofa*	4	1	-	-	-	-	-	-	-	-	-	lse. tth.
32	d	1	M	*Sus scrofa*	4	1	-	-	-	-	-	-	-	-	-	
32	d	1	M	*Sus scrofa*	4	11	f	u	-	-	-	-	-	-	-	Mc IV
32	d	1	M	*Sus scrofa*	4	16	f	-	-	-	-	-	-	-	-	
32	d	1	M	*Sus scrofa*	4	2	-	-	-	-	-	-	-	-	-	lse. tth.
32	d	1	P		-	21	-	-	-	-	-	-	-	-	-	
32	d	2	P		-	21	-	-	-	-	-	-	-	-	-	
32	d	1	P		-	3	-	-	-	-	-	-	-	-	-	
43	d	1	M		-	21	-	-	-	-	-	-	-	-	-	

Catalogue of Vertebrate Remains from NE03C, CU 15, 29, 32, and 43

CU	grd	Quan	Class	Taxon	Sz	Element	P	D.	Burn	RD.	SC.	CT.	CH.	SH.	SW.	Comments
43	h	1	M		3	18	-	-	-	-	-	-	-	-	-	
43	h	2	M		3	4	1f	-	-	-	-	-	-	-	-	
43	d	2	M		3	4	-	-	-	-	-	-	-	-	-	
43	h	1	M		4	3	-	-	-	-	-	-	-	-	-	
43	h	1	M	Caprid	3	12	-	f	-	-	-	-	2	-	-	
43	d	1	M	cf. *Ovis aries*	3	7	-	f	-	-	1	-	-	-	-	
43	h	1	M	*Ovis aries*	3	12	f	-	-	-	1	2	-	-	-	

Appendix B

Prelminary Pollen Analysis for Phase II Archaeological Investigations of the Central Artery/Third Harbor Tunnel Project

by

Gerald K. Kelso, Ph.D.

Introduction

A preliminary pollen analysis was conducted at three of the Central Artery test sites: 1) NE03 Trench A (Mill Pond Wharf Site); 2) NE03 Trench C (Paddy's Alley Backlot Site); and 3) MP01, Trench A. The pollen analysis reported here constitutes a feasibility study rather than a definitive research study. It had two principal objectives:

(1) For targeted sites, to determine if the pollen is well preserved and to assess the potential contribution of pollen analysis to the interpretation of the site at a Phase III level.

(2) To ascertain whether selected site matrices had gradually accumulated as part of the development of a normal soil profile or whether they were the result of episodic filling.

Our criteria for the first objective is a simple estimation of the amount of time required to tabulate a 400 pollen grain sum for each sample. For the second, profile development processes were assessed by comparing the Central Artery pollen spectra to the distinct basic patterns of pollen concentration and pollen degradation which have been recognized in normal, gradually–accumulated sediments and in episodic fill deposits.

Profile Development Processes

Stratigraphic accumulation of normally developing soil is slow, and downward leaching of pollen outpaces sediment aggregation. This results in the separation of older pollen from younger pollen even though little or no sediment has accumulated. Dimbleby's stylistic diagram (1985: Fig. 3) of the resulting pollen distribution is reproduced here at the top of Figure B.1.

Pollen is destroyed by the oxygen in aerated groundwater (Tschudy 1969: 95) and by aerobic fungi (Goldstein 1960: 453) while it is being washed down. The amount of pollen present in a given unit of matrix and the condition of the surviving pollen grains decline with the length of time the pollen is exposed to these agents of degradation. Stylized examples of the distributions of pollen concentrations and measures of corrosion produced by pollen degradation agents in a normal soil profile are presented at the bottom of Figure B.1. These distributions have been noted in both urban and rural historical period matrices in eastern North America (Kelso 1987a, 1987b, 1987c) and can be considered generally diagnostic of naturally accumulated deposits. A variation on this pattern in which culturally caused loss of groundcover produce a decline in pollen concentrations at the top of a sequence has also been seen (Kelso n.d., Kelso and Beaudry n.d.).

An example of the pollen spectrum of an episodic fill is provided by level 9 at the top of a profile taken near the 17th- and 18th-century Scottow's Dock (Kelso and Beaudry n.d.) in what is now the Wilkinson Hardware Store backlot in the central business district of Boston, Massachusetts (Figure B. 2). This deposit was introduced when the present Blackstone Block of buildings was constructed ca. 1820-1825. In level 9 pollen concentrations are highest at the bottom of the level while pollen too degraded to recognize, and the proportion of corroded oaks, a prominent type which retains its identity while readily degrading (van Zeist 1967: 49), are highest in the upper portion of the profile. No pollen at all was recovered from an additional, undiagramed, sample at the top of the sequence. Rapid, deep burial protects pollen (King, Klipple and Duffield 1975: 180). Here the pollen at the bottom of the level was protected by the overburden from the corrosive agents which progressively destroyed pollen as they worked their way down from the top. The result was a mirror image of the sequence predictable in a normal soil profile development. This pattern may serve as the hallmark of an episodic fill upon which no groundcover developed. Modification of the pollen spectrum of an episodic fill is also known (Kelso 1987b).

Site Selection

Archaeological data and matrix appearance suggested that the following three sites provide significant cultural data and should be subjected to at least preliminary palynological testing:

(1) NE03 Trench C, Grid h (Paddy's Alley Backlot Site): Twenty-six centimeters of organic-appearing sediment (CU 15/29/32) incorporating artifacts was observed at this location during Phase II excavations. It appeared to be a backlot deposit, but the possibility that it is an episodic fill could not be ignored. A profile of 17 contiguous 2 cm samples (Bag 348) was collected from 8 cm into the basal clay (CU 30) at the locality to the top of the cultural level. All 13 cultural deposit samples were analyzed and their spectra were compared with the deposition/degradation models described in the previous section. One clay sample was analyzed for comparative purposes. All clay samples will be incorporated in any definitive study.

(2) NE03 Trench A, Grid h, CU 30 (Mill Pond Wharf Site): A dock located inside the Boston mill pond was found at this locality. No profile was needed to establish the significance of the site. A sample of apparent mill pond bottom muck (Bag 225) and a comparative clay sample (Bag 224) were considered adequate to establish the state of pollen preservation and the probability that the spectra will yield cultural data.

(3) MP01 Trench A: This site was a test trench near Boston Garden in the vicinity of what was the mid-17th-century Mill Pond causeway. It should assist in evaluating that site. A sample of apparent mill pond bottom muck (CU 15, Bag 29) and a sample of an overlying clay incorporating shell and large, well-preserved plant fragments (CU 14, Bag 27) were examined.

Methods

Pollen extraction followed Mehringer (1967), and residues were mounted in glycerol for viewing. The pollen was identified at 430x with problematical grains examined under oil immersion at 1000x. Because this was an exploratory analysis, 100 grain pollen counts were employed rather than the considerably more time consuming 400 grain counts recommended by Duffield and King (1980) for analysis of the complex temperate zone vegetation.

All pine pollen grains were examined for the "belly warts" which distinguish white pine (*Pinus strobus*) from other pines native to the northeast (Kapp 1969: 38). No pattern was evident among the few grains recovered which lacked "belly warts."

All grass pollen grains were measured at 860x, and all specimens measuring between 40 and 60 microns (greatest diameter) were assigned to the "European cereal" category. The fine morphological and size distinctions by which European palynologists (Faegri and Iversen 1964: 196-197; Anderson and Bertelsen 1972) distinguish among wheat (*Triticum*), barley (*Hordeum*), oats (*Avena*), and rye (*Secale*) in lake and bog deposits do not appear to survive the harsh environment of terrestrial matrices. These types have been lumped under the term "European cereal grass."

Pollen concentrations per gram of sample were computed, following Benninghoff's (1962) exotic pollen addition method, as a check against preservation-related differences in the spectra. Pollen concentration figures were not computed for individual taxa, because these would not be meaningful in the absence of chronological control over sedimentation rate and might be mistaken for pollen influx data. All pollen grains too degraded to be identified and all corroded oak (*Quercus*) pollen grains, were tabulated to provide further control over corrosion factors. Unidentifiable pollen grains were included in pollen concentration figures but were not incorporated in any sum from which the frequencies of other types were computed. The data for this pollen group as a percentage of total pollen and for corroded oaks as a percentage of all oaks are presented in the diagrams (Figs. B.3 and B.4) which are to illustrate matrix formation data provided by the cumulative effects of pollen destruction processes rather than the processes themselves. The terms "corroded," degraded," and deteriorated" are used interchangeably, in the generic sense, to refer to cumulative post-deposition damage of any kind other than tearing, rather than in reference to specific kinds of damage as employed by Cushing (1964) and Havinga (1967, 1984).

Historical archaeologists most frequently recognize plants in the field and encounter them in their documentary sources under English names. For their convenience, the most common names applied to plants in New England are employed in both text and diagrams.

The diagrams presented here are based on relative frequencies (percentages) computed from separate sums for arboreal and non-arboreal pollen types. This serves to differentiate regional and local pollen types to some extent and reduces the statistical distortions that the contributions of pollen types reflecting different phenomena induce in each other. It has the disadvantage of producing possibly misleadingly high percentages in some instances from small counts among the minor types.

Results

NE03 Trench C, grid h (Paddy's Alley Backlot Site): These deposits fall into three general pollen zones (Fig. B.4). The earliest is the arboreal pollen dominated clay at the bottom of the profile. Pollen concentrations were low, but the pollen which was present was relatively well preserved. Non-arboreal pollen is rather scarce in this sample and certifiable Eurasian pollen types are absent. It is probable that the pollen spectrum of this clay registers a forested prehistoric landscape. The profile interval between sample 5, the bottom of the cultural deposit, and samples 10–12, constitutes the second pollen zone. It was characterized by relatively high pine, hazel, hickory, ash, general arboreal pollen, goosefoot, and dandelion frequencies and by rising grass pollen counts and declining ragweed-type frequencies up through the sequence. Pollen concentrations increase toward the top of the zone while the quantity of pollen too degraded to recognize increases toward the bottom. These patterns most closely resemble the Dimbleby and Fort Necessity models for a naturally developed soil profile, while the unpatterned distribution of corroded oak pollen resembles the earthworm homogenization and redistribution of old oak pollen in the Fort Necessity Core No. 1 (Kelso 1986a: 1). The presence of only two cereal grains in the deposit in samples 10 and 11 suggests some specific kind of activity at the top of the zone and the high pollen concentration in sample 12 could reflect a buried cultural surface (Dimbleby 1985: 45).

Pollen zone 3 embraces the profile segment from sample 10 or sample 12 to sample 17 at the top of the deposit (Fig. B.4). It is characterized by lower pine, hazel, ash, general arboreal pollen, and goosefoot frequencies and there is a markedly larger proportion of oak pollen in the counts based on the arboreal pollen sum only in the lower part of the zone. Expanded counts may, however, show oak declining at the top of the profile. Grass pollen peaks at the bottom of the zone and declines, while the ragweed pollen contribution bottoms out in the bottom half of the zone and then begins to rise. Dock is much more prominent in this zone than in zone 2, while dandelion frequencies are generally lower with, perhaps, a tendency to increase parallel to ragweed in the upper two samples. Most significantly, the proportion of pollen grains too degraded to recognize is higher in samples at the top of the zone while pollen concentrations drop off from sample 12 through sample 17. These concentration and degradation patterns resemble those at the top of the Scottow's Dock terrestrial profile (Fig. B.2) and suggest that zone 3 is an episodic fill or perhaps a garden that has been turned over and aerated and upon which no groundcover developed. The concentration patterns are much more marked here and it is possible that the deposit remained exposed for a significant interval.

My experience with urban deposits (Kelso 1985, 1986a, 1986b, 1987a, 1987b; Kelso and Schoss, 1983; Kelso and Beaudry n.d.) suggests aggregation may out pace leaching in many urban sites. If that is the case here, the high pollen concentration in sample 12 may reflect neither a buried surface nor the protected pollen at the bottom of a fill. It could be a horizon marker for a shift in the function of the site to something resulting in progressive loss of groundcover through the remaining deposition interval. The possibility of so many alternative interpretations suggests that further analysis of this site will be productive in terms of both culture history and theoretical development.

NE03 Trench A, grid h (Mill Pond Wharf Site): Pollen concentrations, ca. 6,000 pollen grains per gram, and corrosion measures in both samples from this site (Fig. B.4) were comparable to those in zone 2 of the backlot deposit. There was, however, considerably more charcoal and charred plant fragments in the dock deposits. Counting was much more time–consuming for the pollen in this sample. The presence of Eurasian cereal pollen in both samples and the recovery of sheep-sorrel pollen, an unquestionable Eurasian weed-type, in Bag 225 attest to the historic era origin of these matrices while notable differences between the samples in the spectra of many types—dock, pine, spruce, and hazel for instance—suggest that a full profile from this location would recover evidence for significant changes in ground cover or land use.

MP01 Trench A (Mill Pond at Causeway Street): Pollen preservation was superlative in both samples and pollen concentrations were high (Fig. B.3). The presence of sheep–sorrel pollen in the bottom muck sample (CU 15) certifies that this is Euroamerican era Mill Pond bottom rather than prehistoric Charles River deposits. A profile at this location would facilitate interpretation of the Mill Pond dock spectra.

Summary and Recommendations

Pollen preservation and concentration in the profile samples at the Paddy's Alley Backlot Site (NE03 Trench C) was more than adequate to permit further analysis at reasonable cost. The 100 grain exploratory counts yielded the following top to bottom sequence: 1) a fill, or perhaps a graded layer, with a surface that remained barren and exposed for a significant interval; 2) a normally developed cultural profile; 3) a prehistoric clay. Groundcover change is evident within and between pollen zones, and the site certainly warrants further archaeological and palynological investigation. Excavation may disclose interesting features within the backlot deposits and a comparison should be made between land use and profile development processes in different parts of the site.

Pollen preservation was good in the Mill PondWharf Site (NE03 Trench A) deposits, but the spectra are diluted by charred plant remains. They will be more expensive to count. Difference between the two samples suggest that changes in groundcover and land use practices occurred during the occupation. A pollen profile taken at this location during Phase III excavations should yield significant site formation data.

The two MP01 Trench A Mill Pond samples required the least time to count of any samples in this exploratory study, and a sample series through the mill pond bottom deposit could be analyzed very economically. Water laid pollen spectra reflect entire drainages (Peck 1973; Crowder and Cuddy 1973) and the Mill Pond deposits should incorporate data from all drainages discharging into Boston Harbor from ca. 1643 to ca. 1808. Such a profile would permit us to reexamine and reevaluate profiles from the Wilkinson Backlot (Kelso and Beaudry n.d.) the Bostonian Hotel (Kelso and Schoss 1983), the Sanborn Site (Kelso 1986a), and the Paul Revere House (Kelso 1986b). It would also provide a baseline for interpreting any future investigations on the Boston waterfront.

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Illustrations

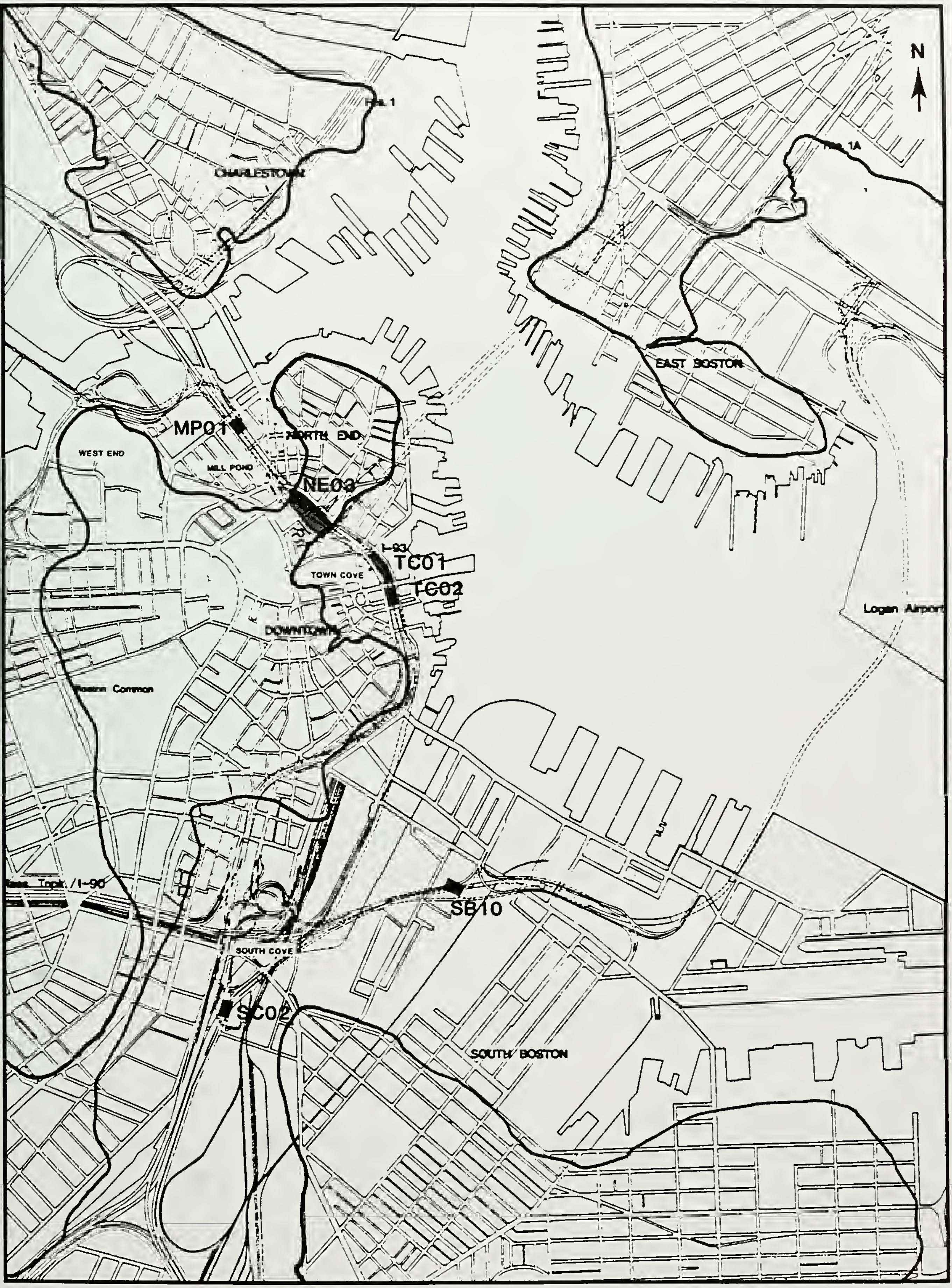


Figure 1.1 Original Shoreline on Modern Map Showing Phase II Testing Locations

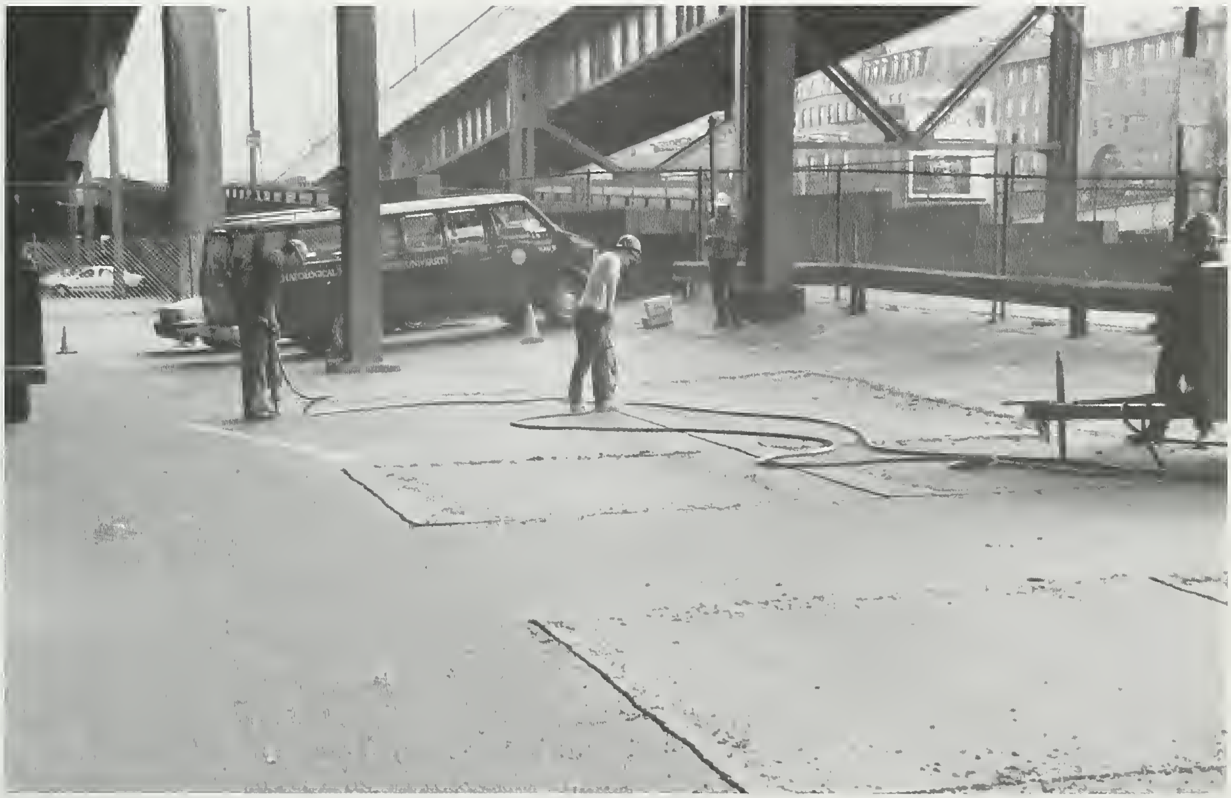


Figure 2.1 Jackhammering through the Asphalt at MP01

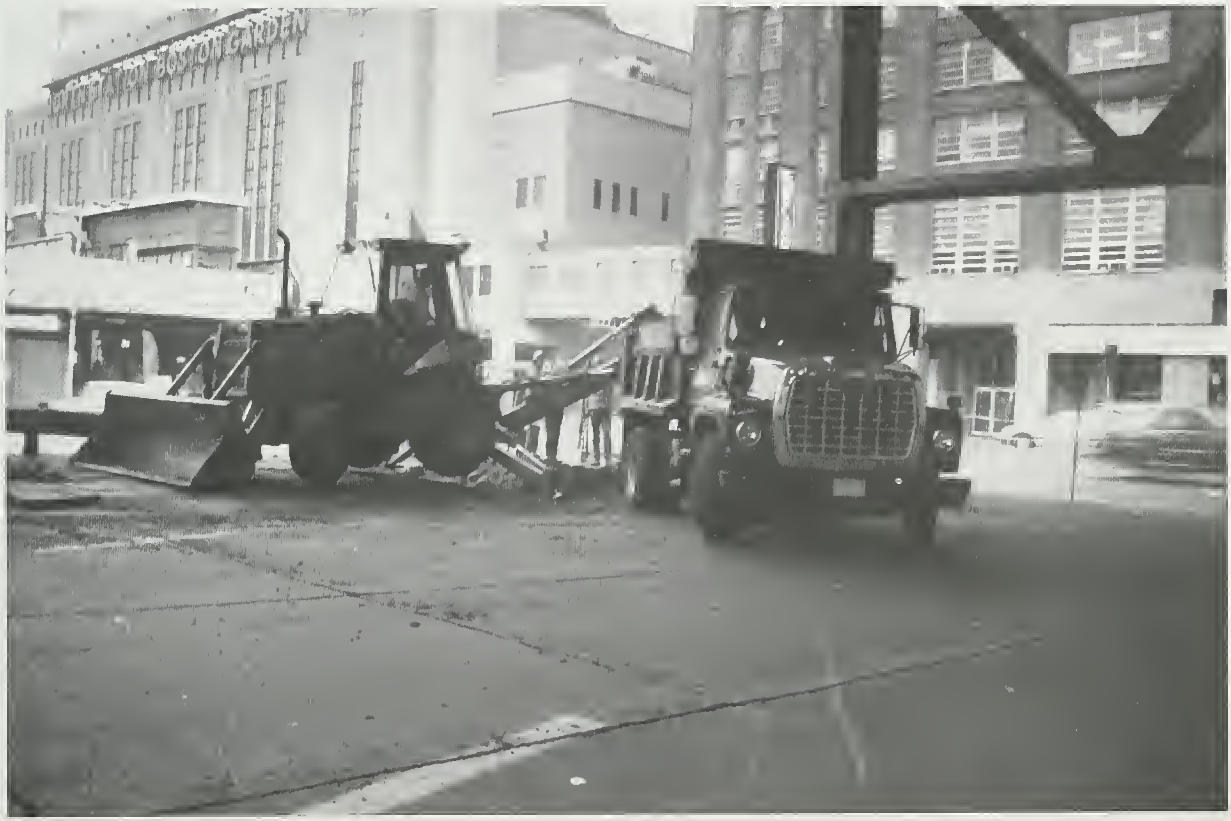


Figure 2.2 Backhoe Removing Surface Asphalt at MP01, Trench A

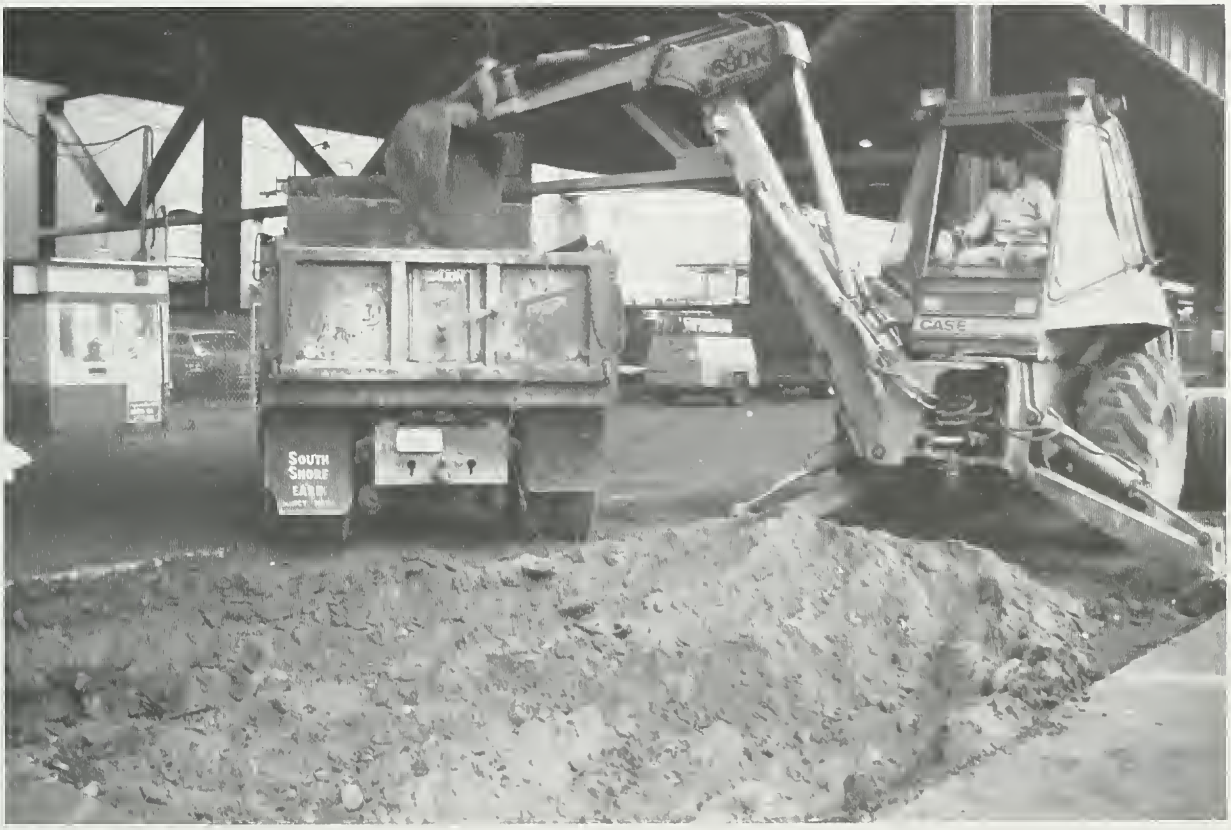


Figure 2.3 Removing Sand Bedding for Asphalt at MP01, Trench A

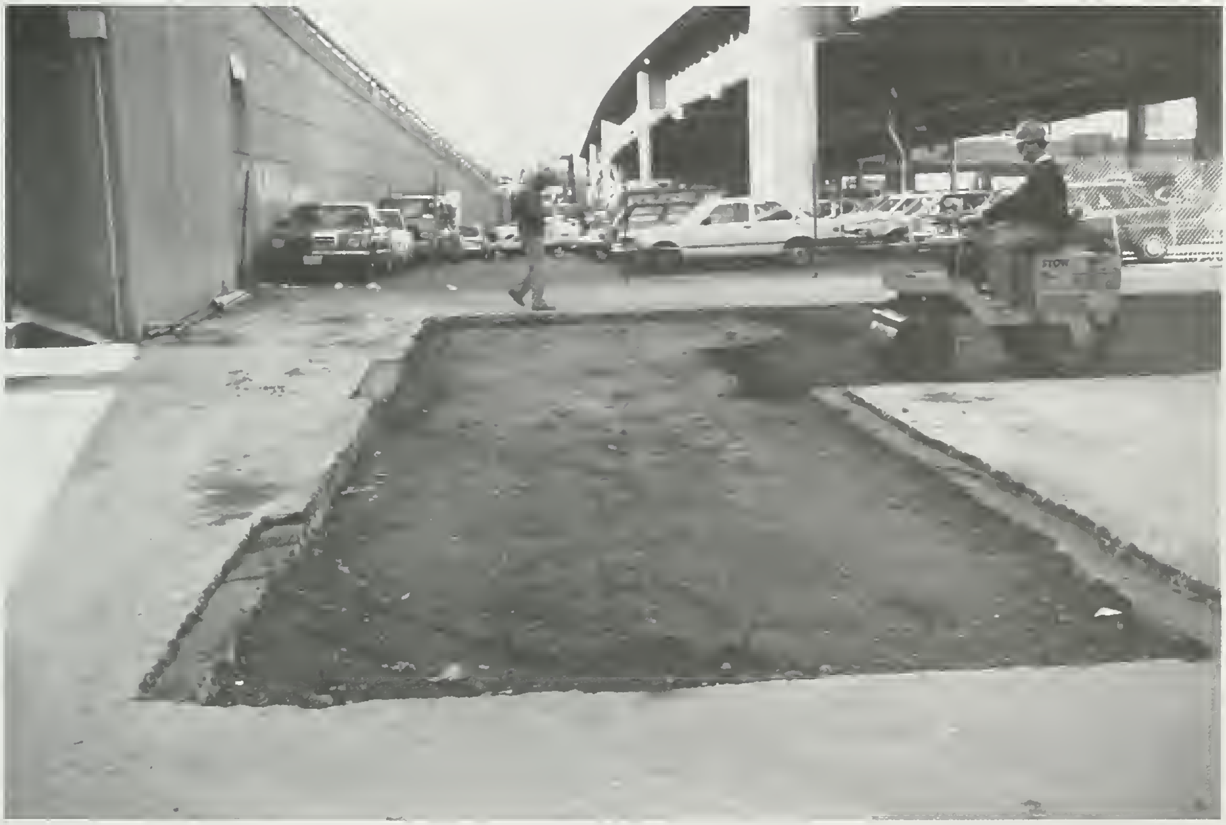


Figure 2.4 Restoring Asphalt Surface at NE03, Trench C

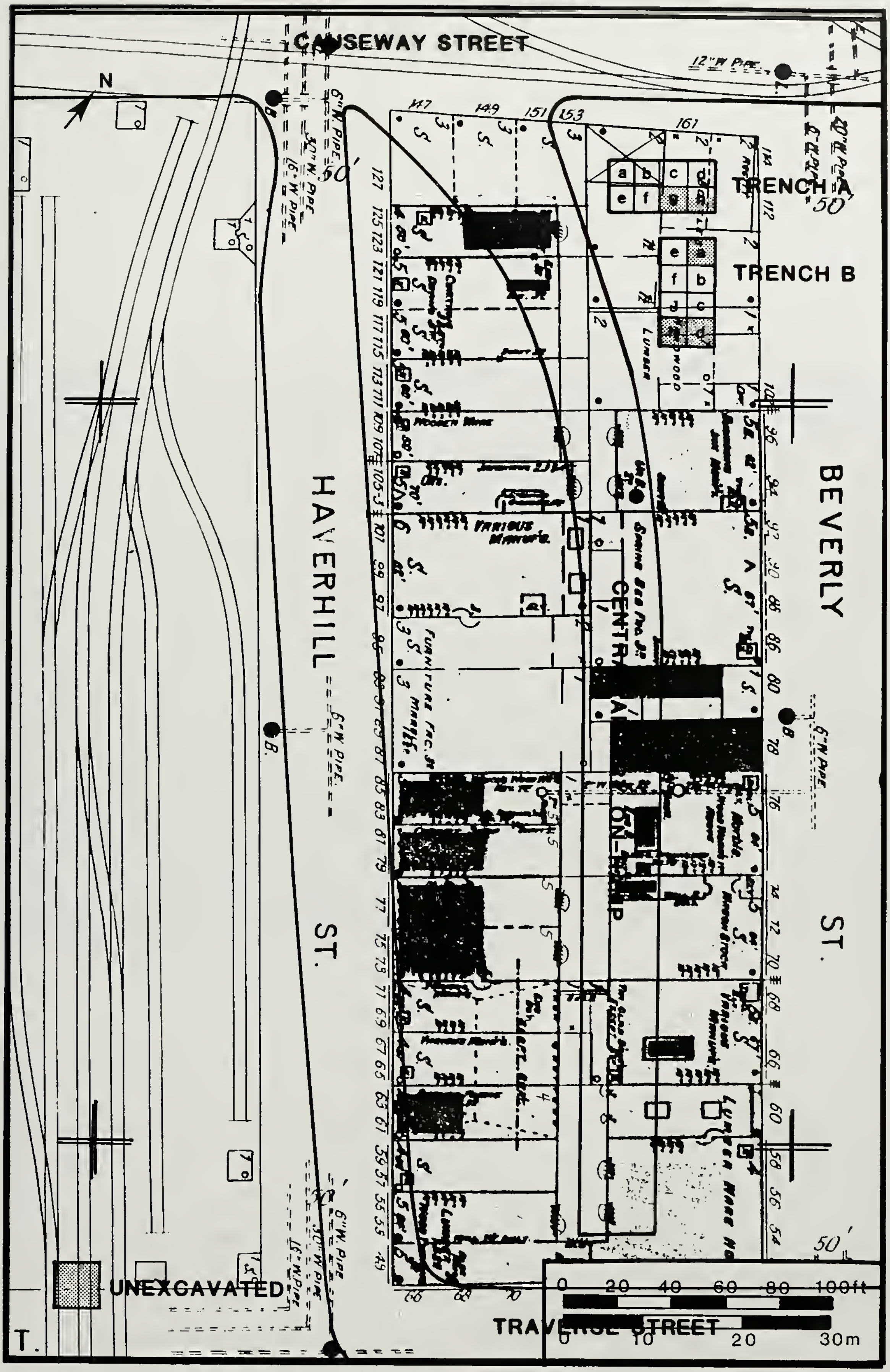
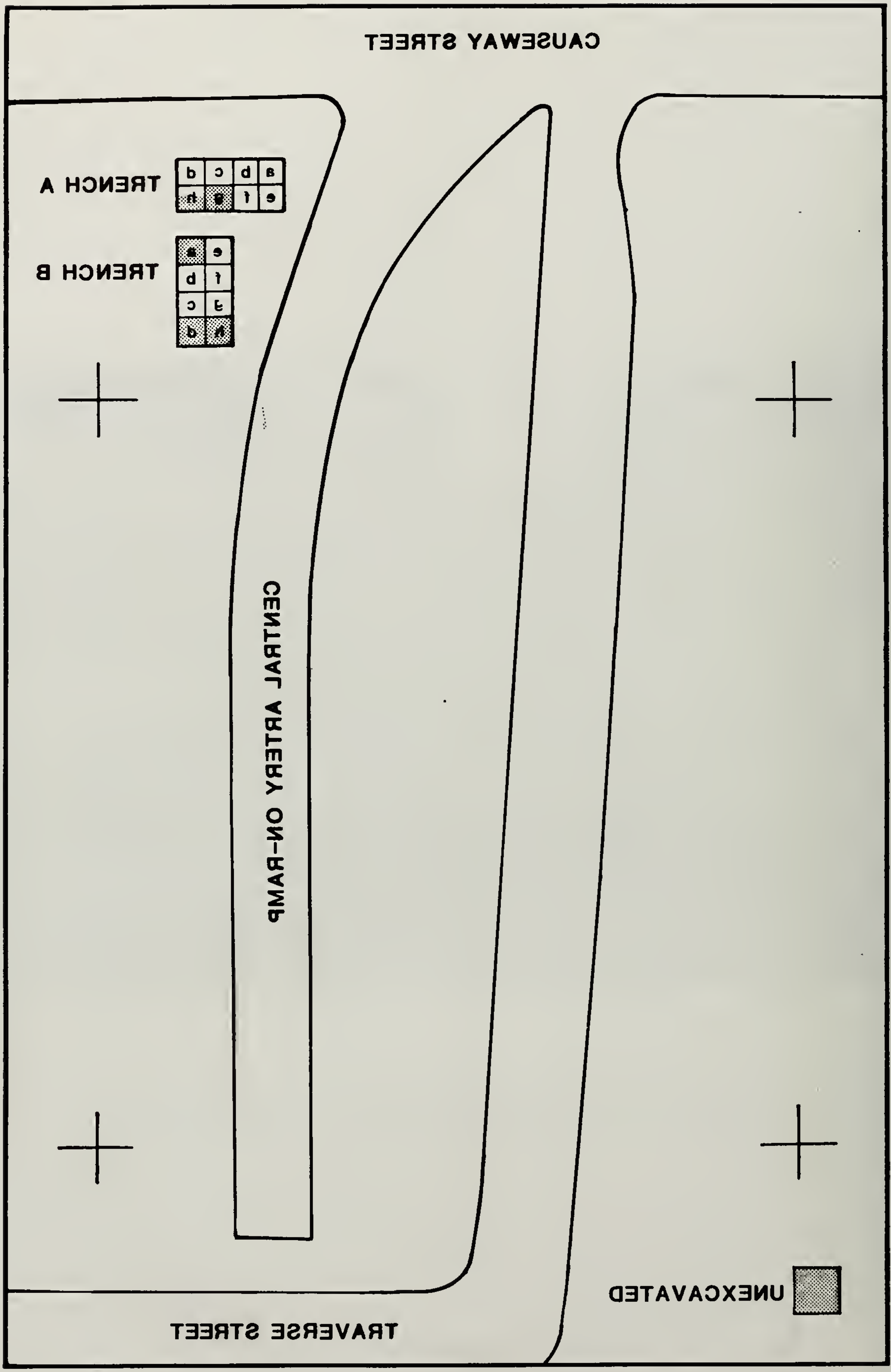


Figure 3.1 Modern Plan of Block MP01 over Historic Map of MP01 Area (Sanborn 1895 Pl. 5) Showing Location of Test Trenches


CAUSEWAY STREET
TRENCH A
a
b
c
d
e
f
g
h
TRENCH B
a
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f
g
h
CENTRAL ARTERY ON-RAMP
TRAVERSE STREET
UNEXCAVATED

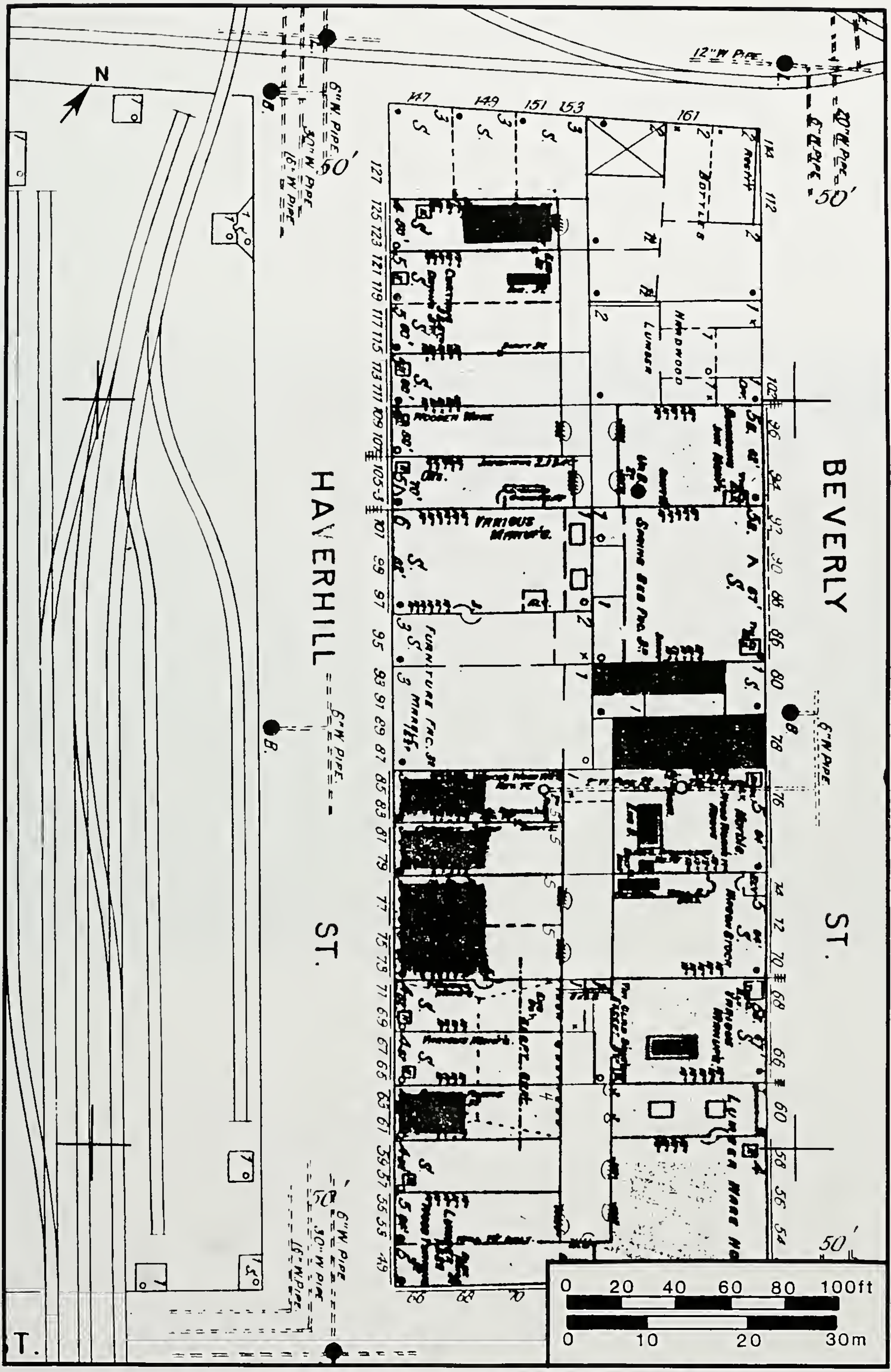

Figure 3.1 Modern Plan of Block MP01 over Historic Map of MP01 Area (Sanborn 1895 Pl. 5) Showing Location of Test Trenches

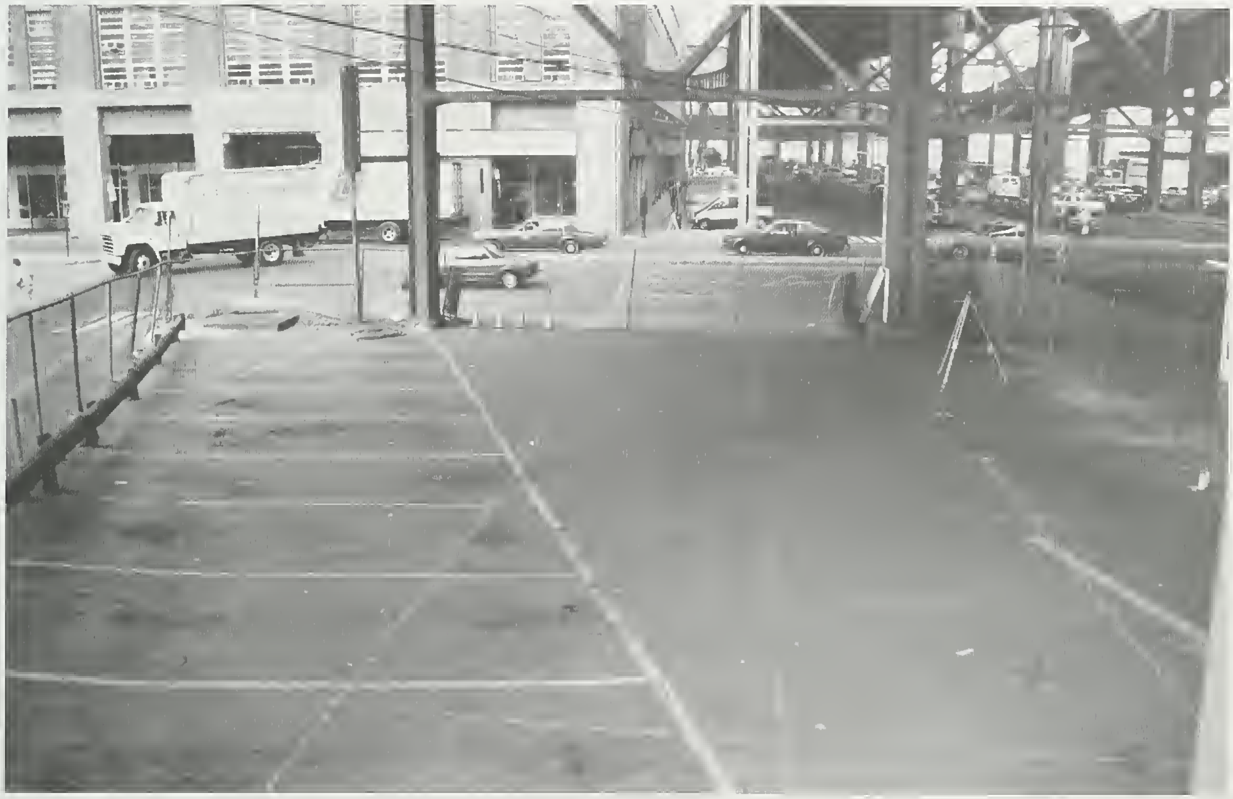

Figure 3.2 View of MP01, Trenches A and B before Excavation

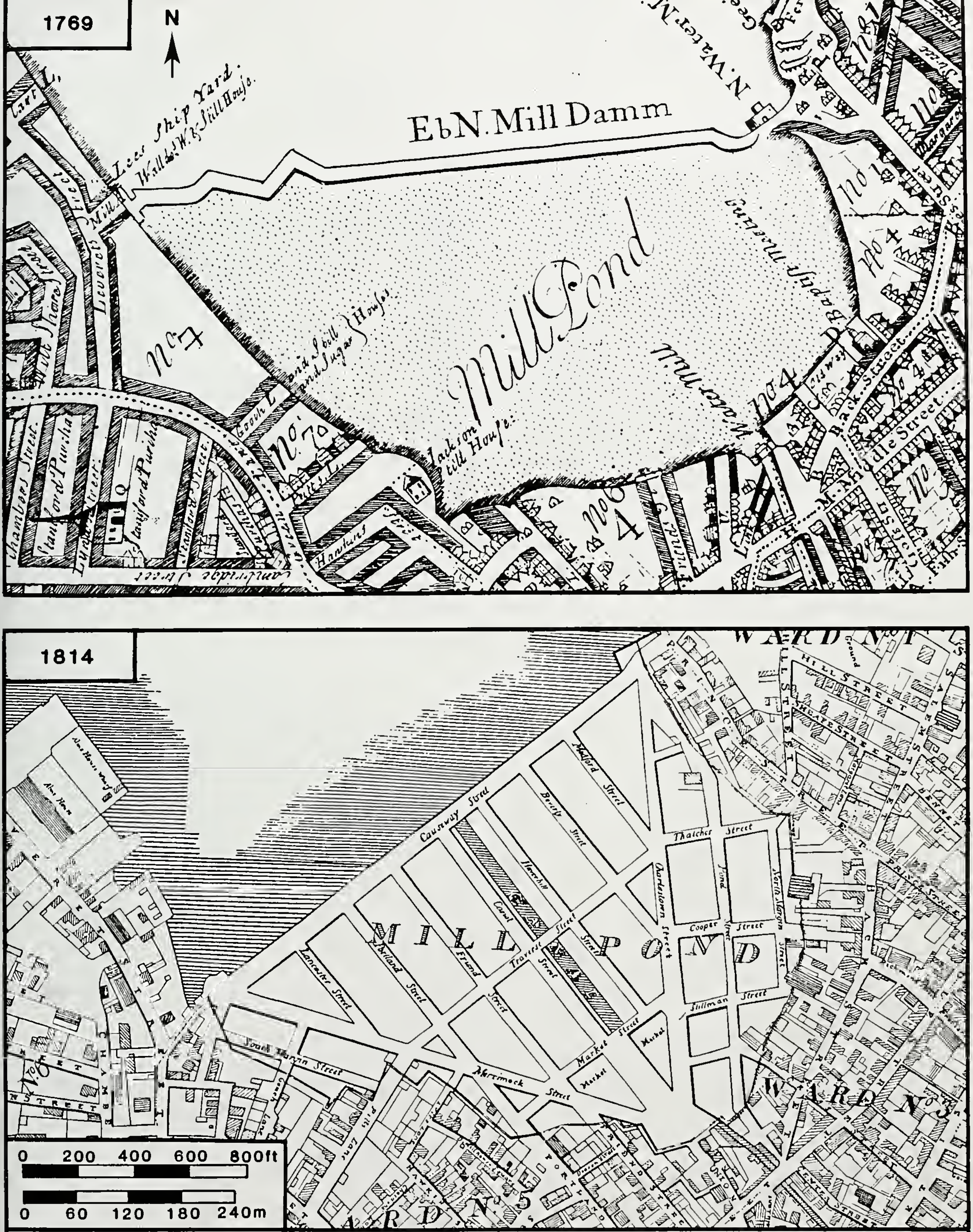

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Figure 3.3 Mill Pond from Price 1769 (top) and Hales 1814 (bottom)

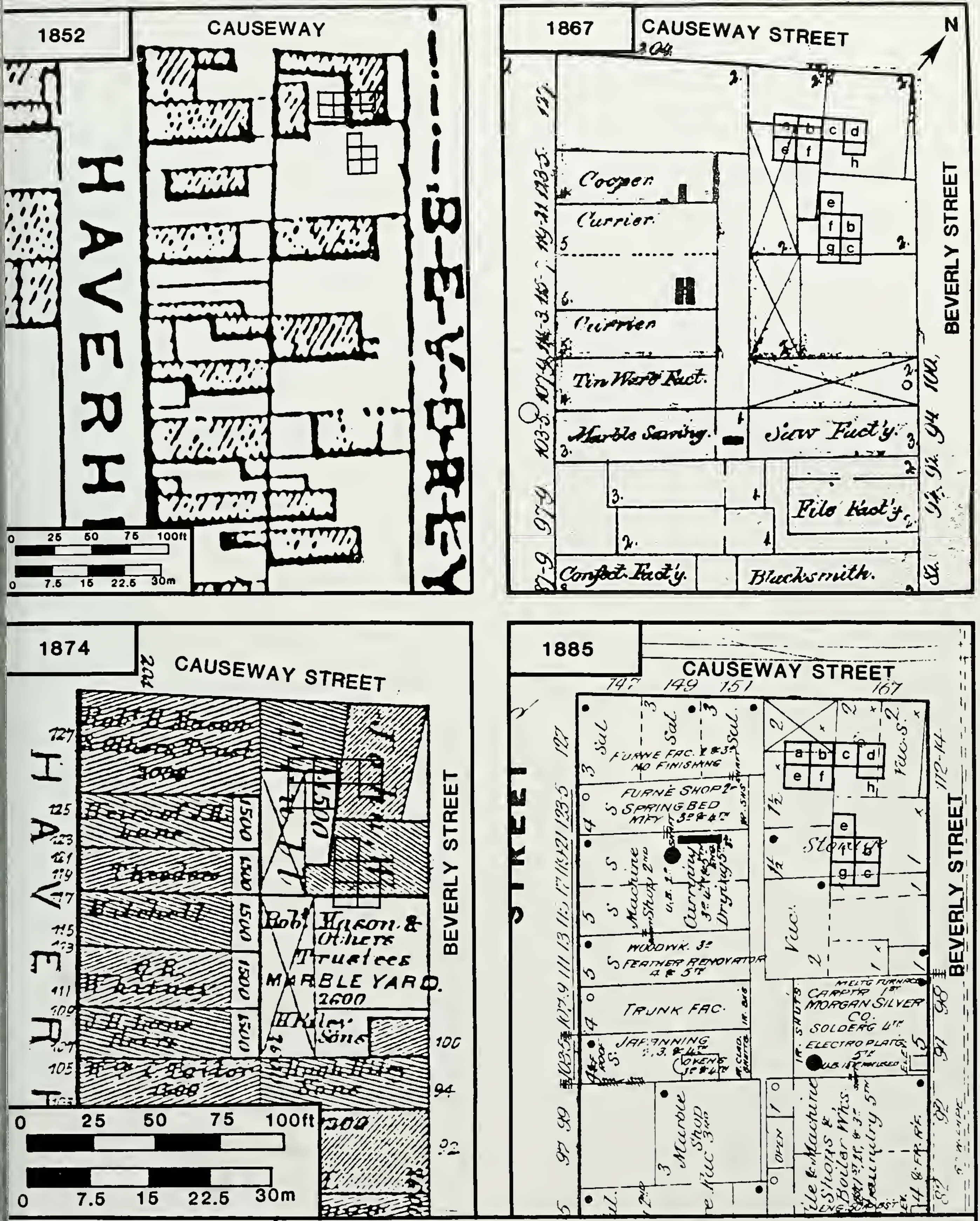

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Figure 3.4 MP01 Trenches A and B on Slatter and Callan 1852, Sanborn 1867 (Pl. 6), Hopkins 1874 (Pl. C), and Sanborn 1885 (Pl. 15)

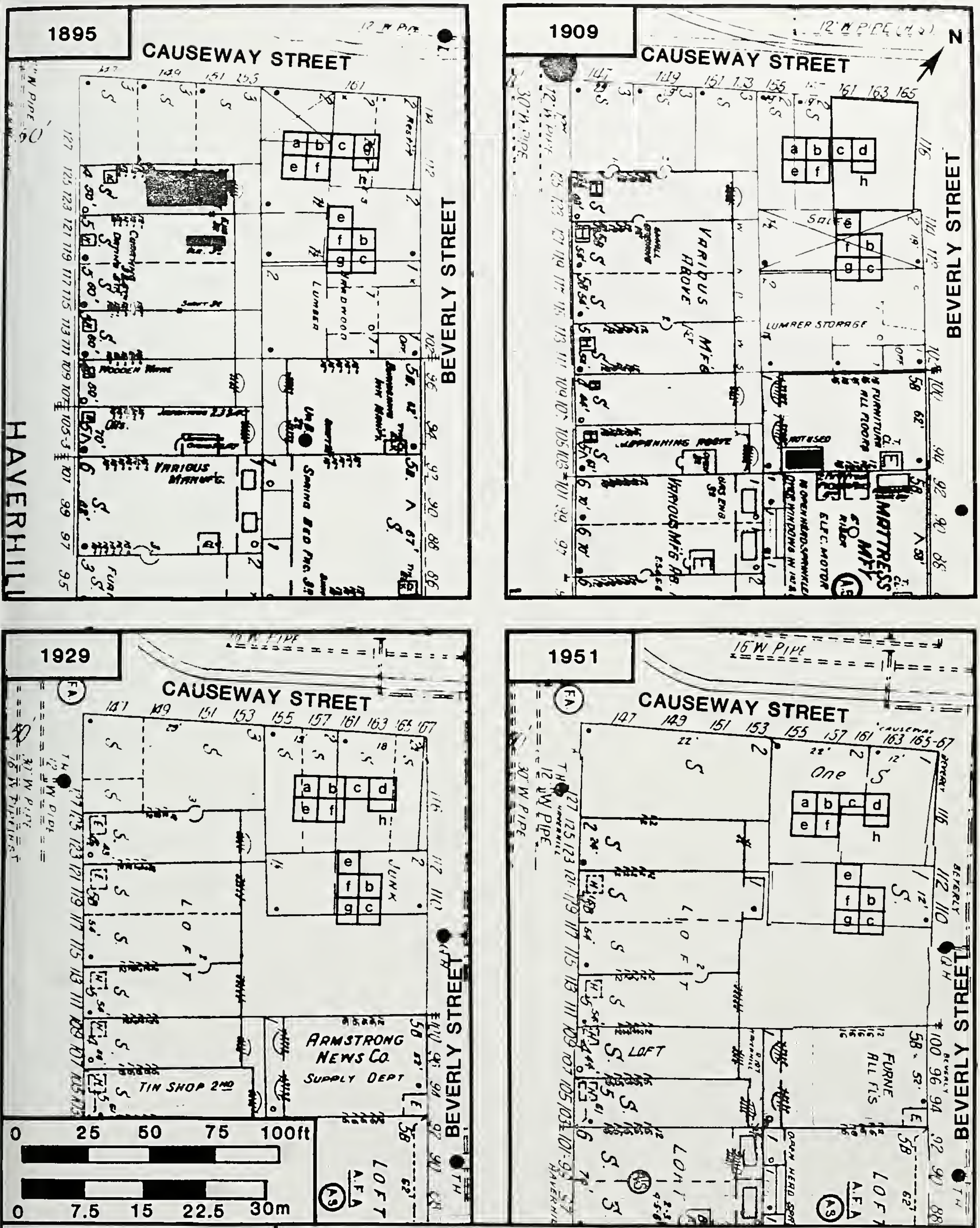

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Figure 3.5 MP01 Trenches A and B on Sanborn 1895 (Pl. 5), Sanborn 1909 (Pl. 23), Sanborn 1929 (Pl. 15), and Sanborn 1951 (Pl. 15)

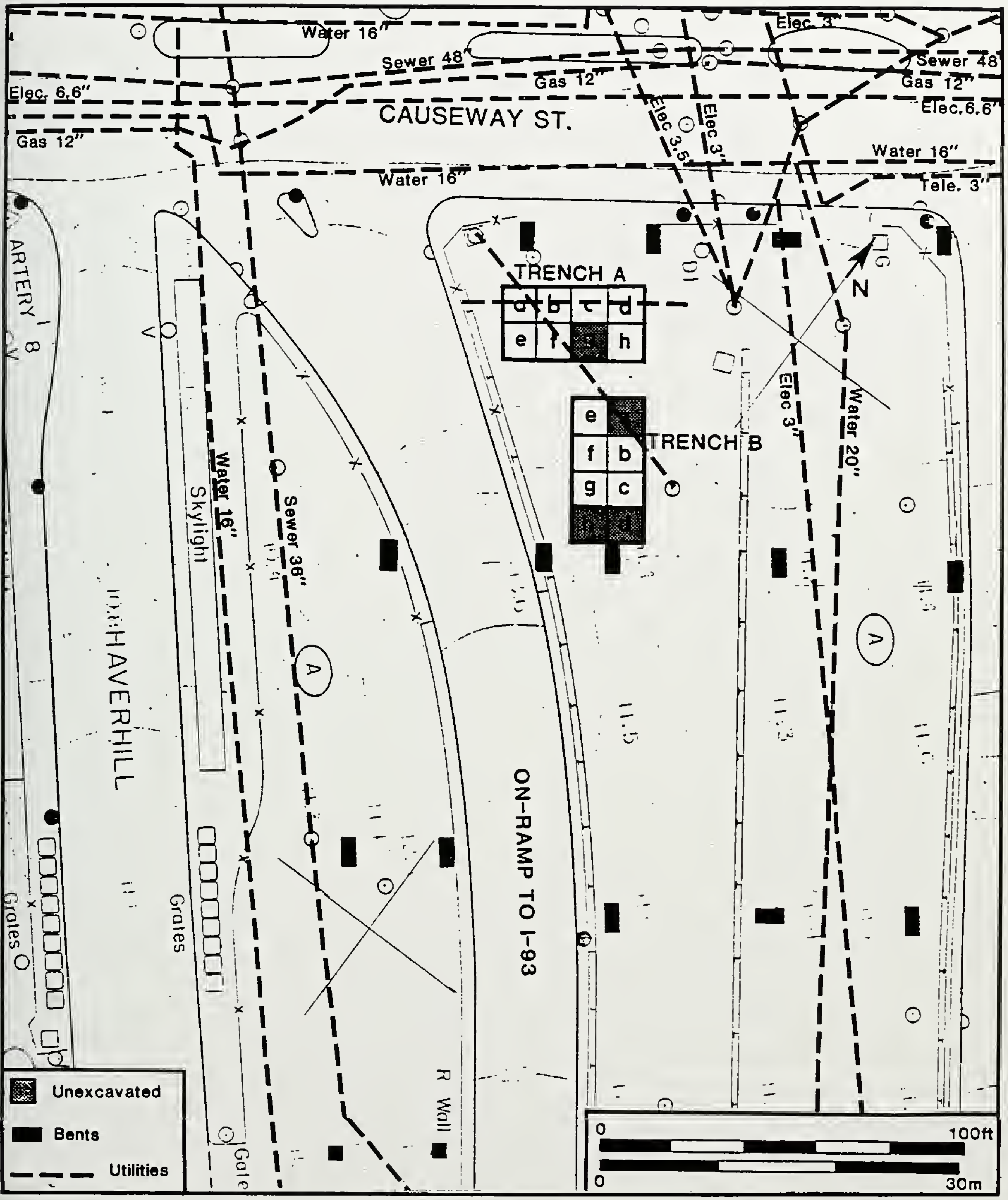

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Figure 3.6 MP01, Trenches A and B. Modern Plan

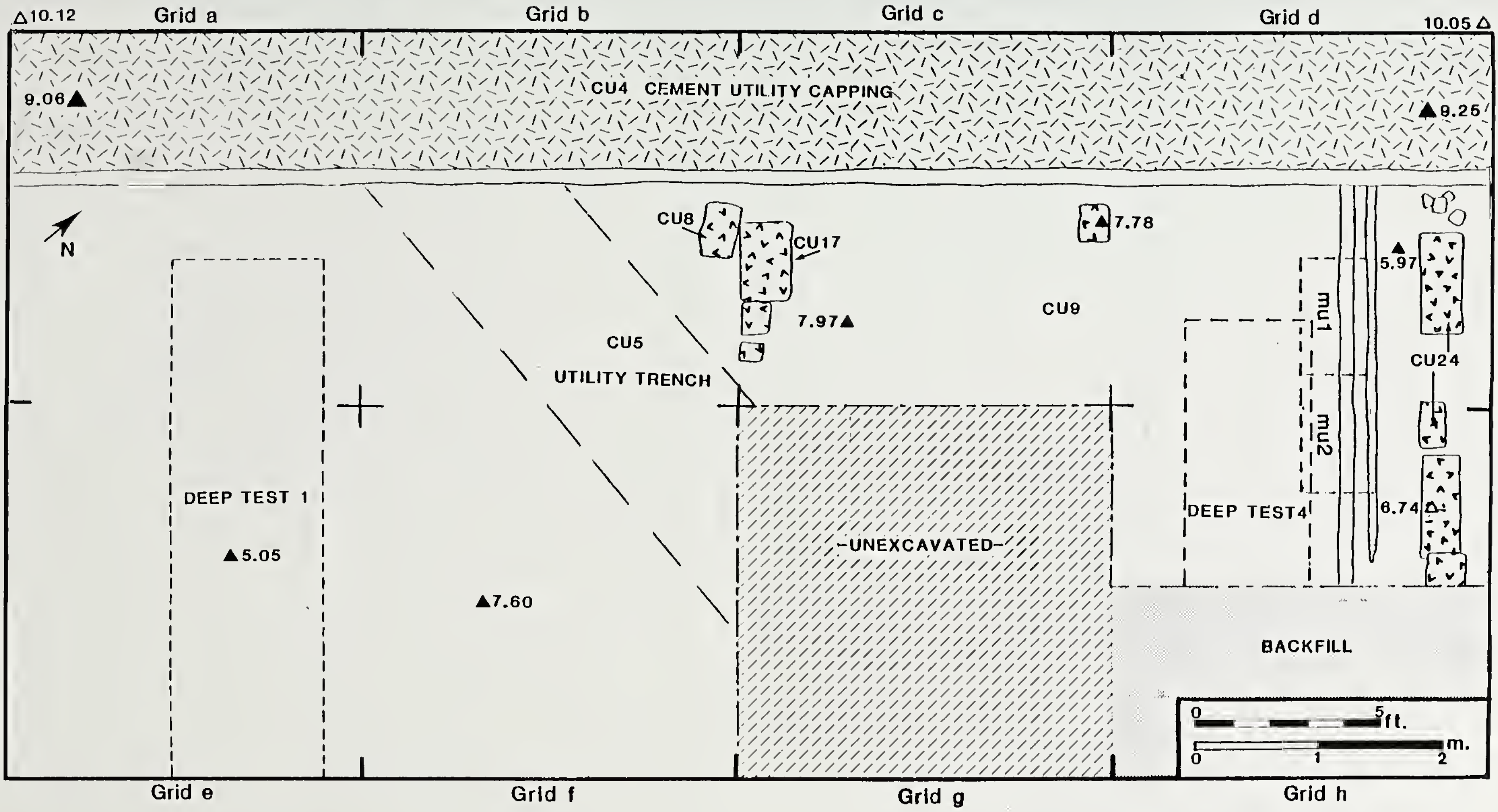

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Figure 3.7 MP01, Trench A. Plan View.

- ▨ CONCRETE
- ▨ MARBLE
- ☐ WOOD

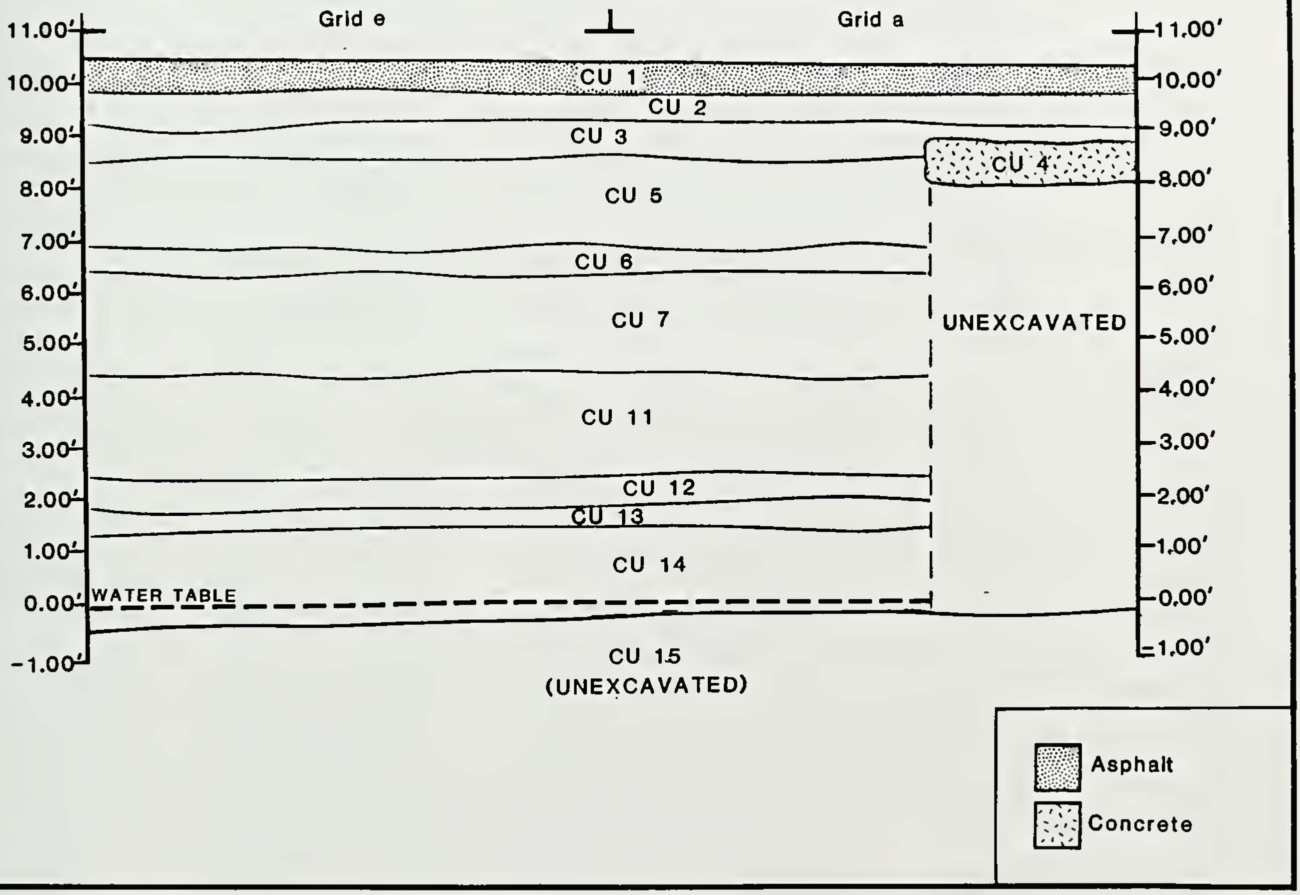

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Figure 3.8 MP01, Trench A. Deep Test 1. West Wall Profile, Grids a, e

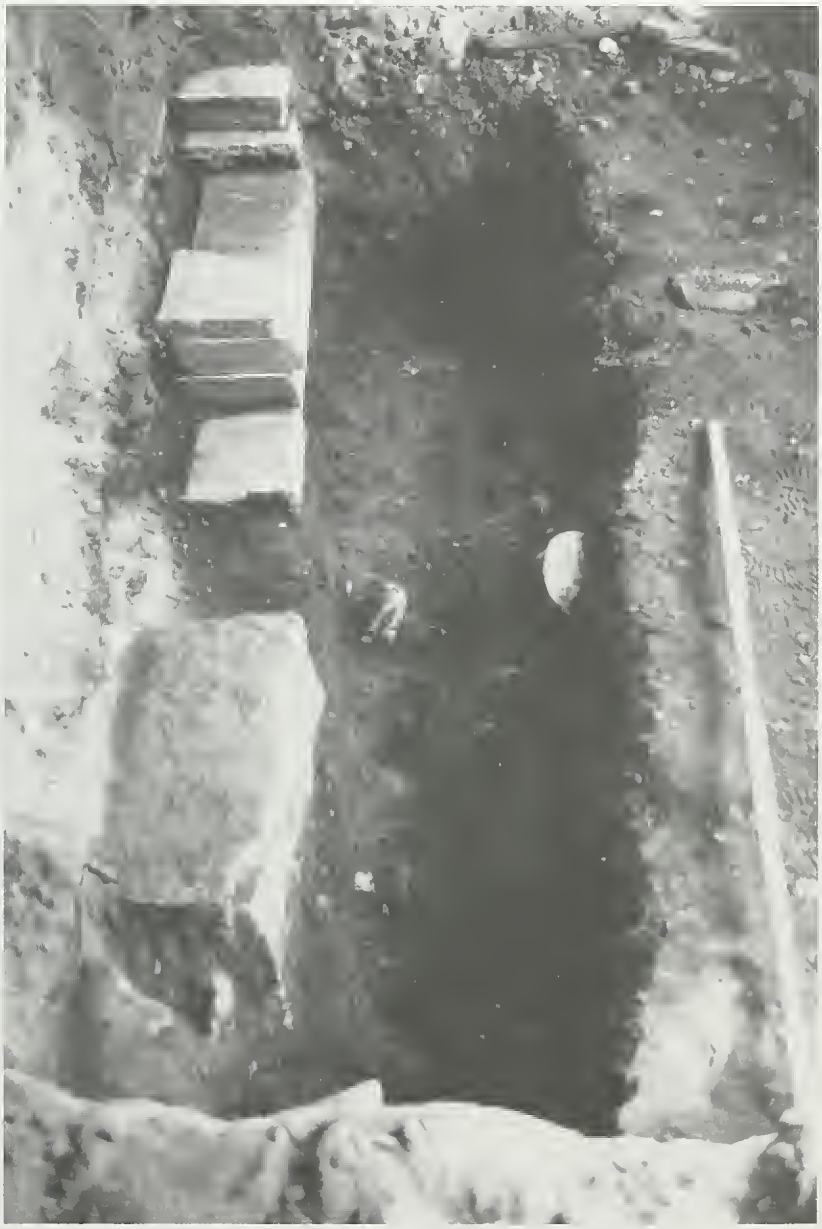

Figure 3.9 MP01, Trench A. View of Foundation (CU 24), from West.

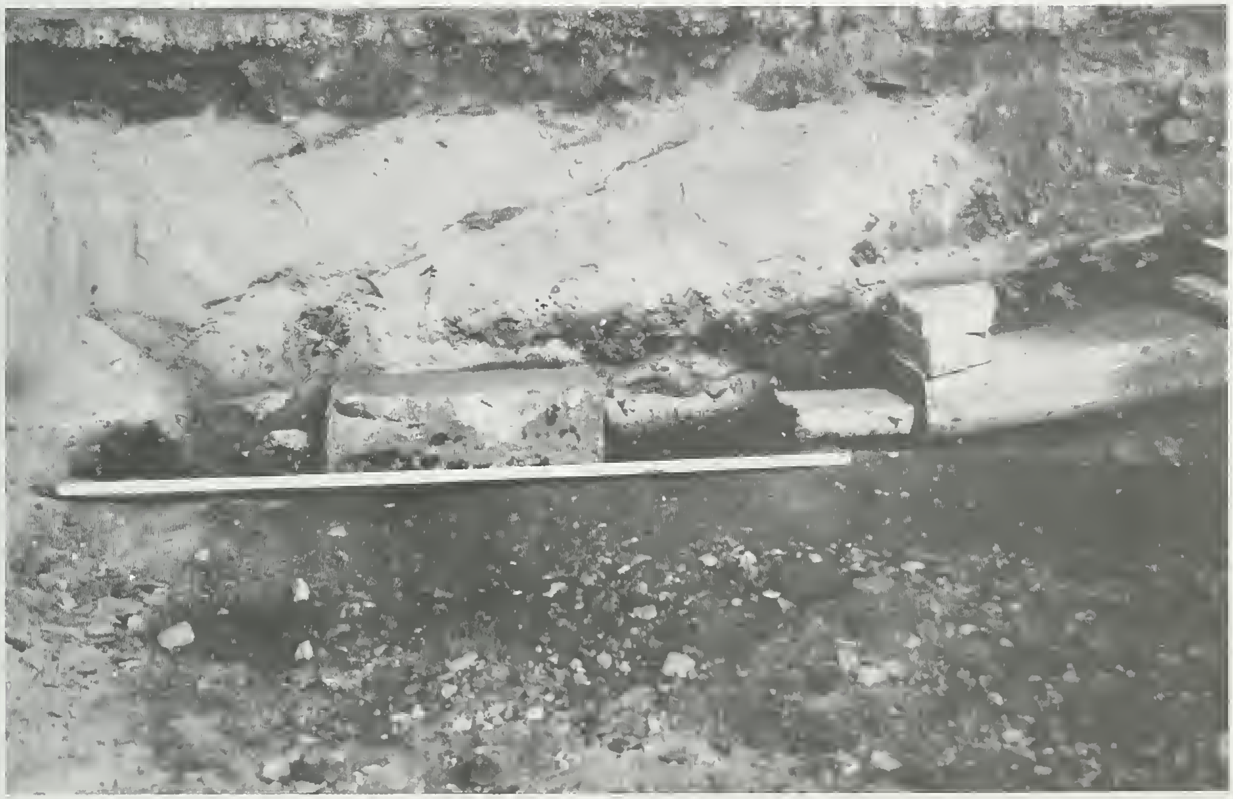

Figure 3.10 MP01, Trench A. View of Foundation (CU 24) and Excavation into Mill Pond Fill.

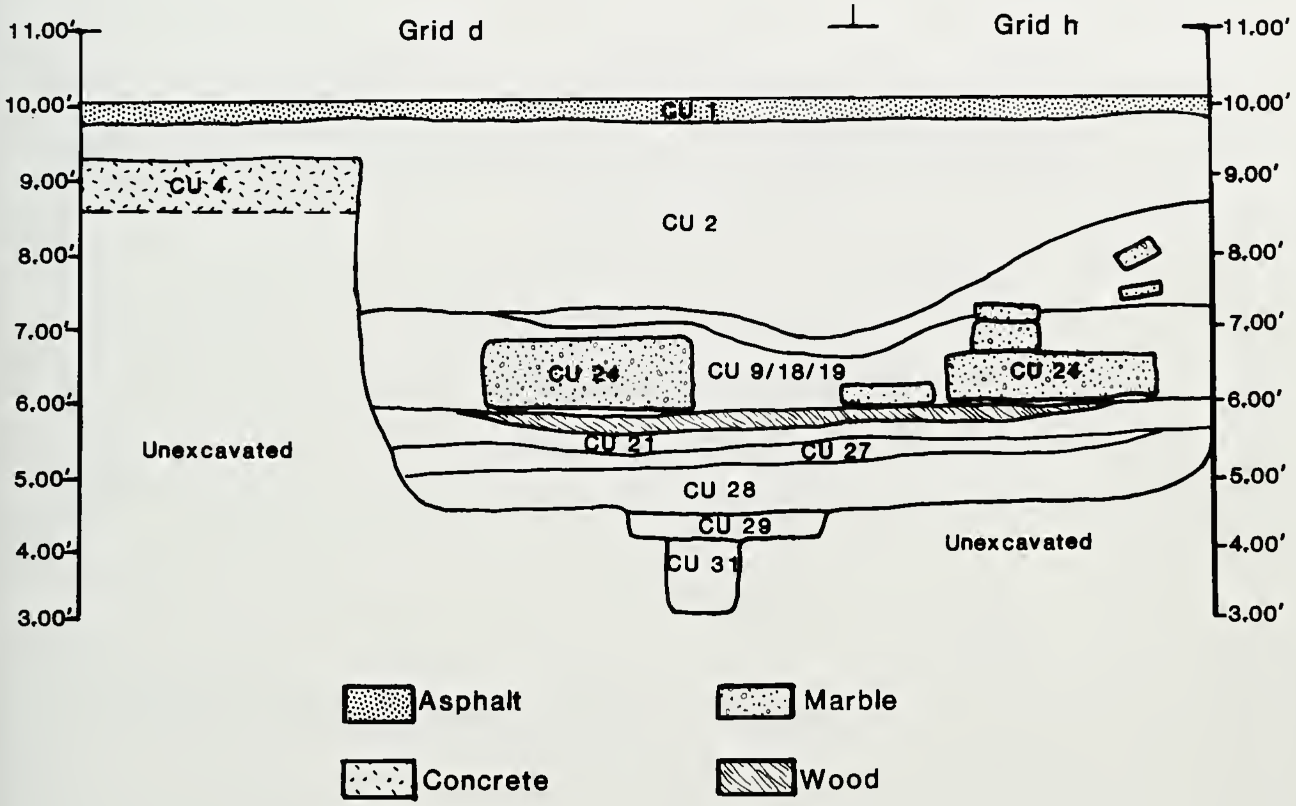

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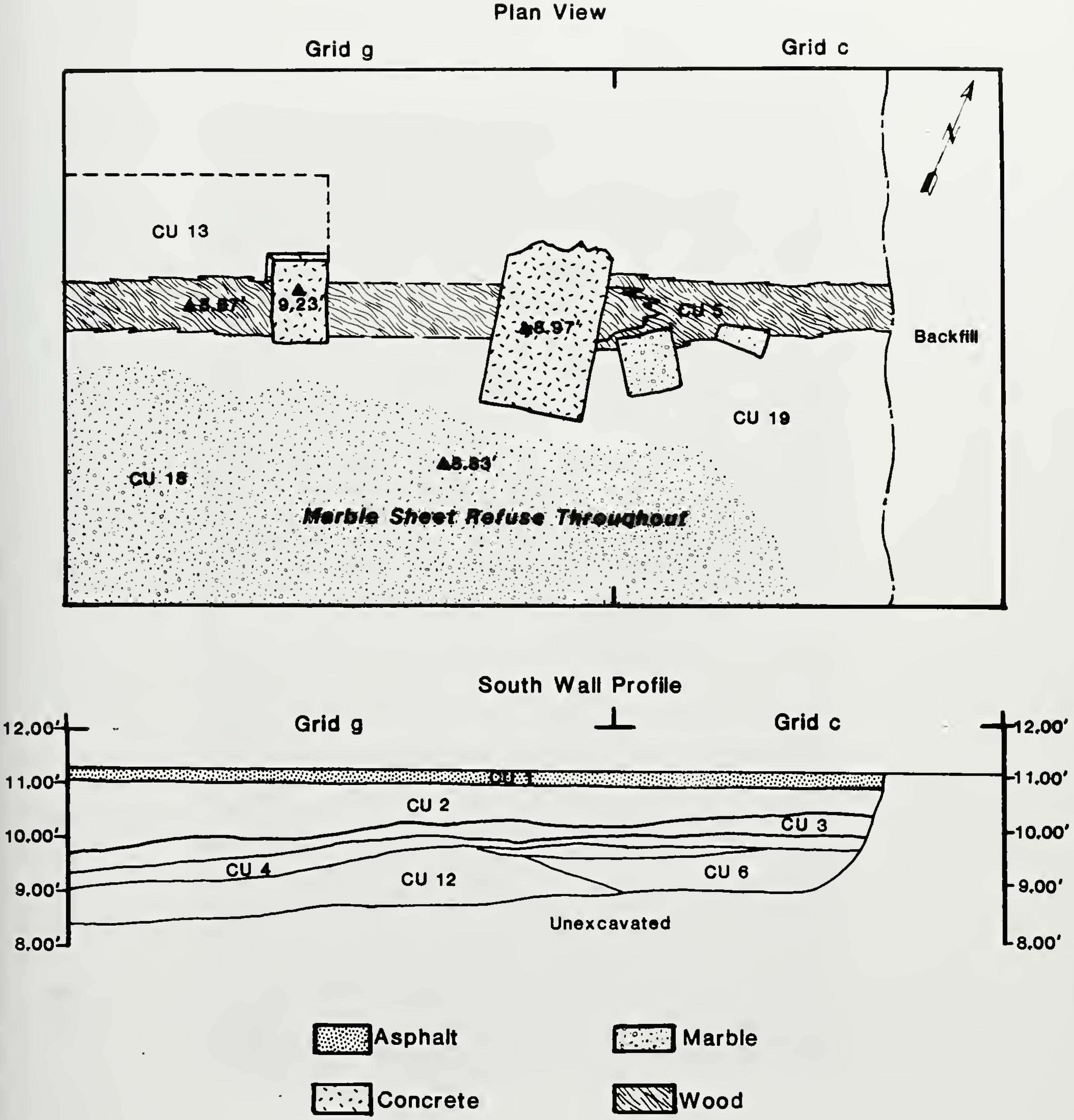
Figure 3.11 MP01, Trench A. Profile of East Wall, Grids d, h



I-90/I-93 Project Phase II Archaeology Office of Public Archaeology Boston University	Figure 3.12 MP01, Trench B. Plan and South Profile

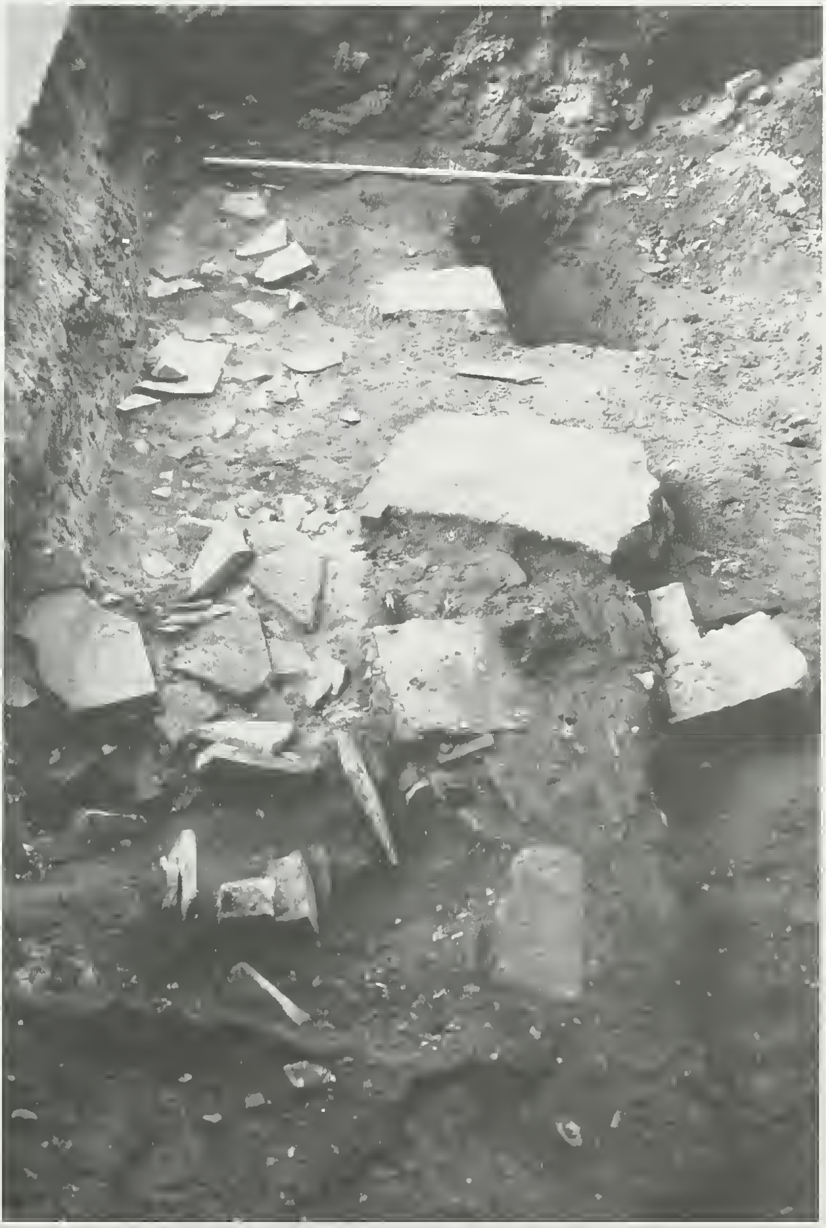


Figure 3.13 MP01, Trench B. Marble Sheet Refuse (CU 18/19) and Adjacent Foundation Wall (CU 5), Looking West

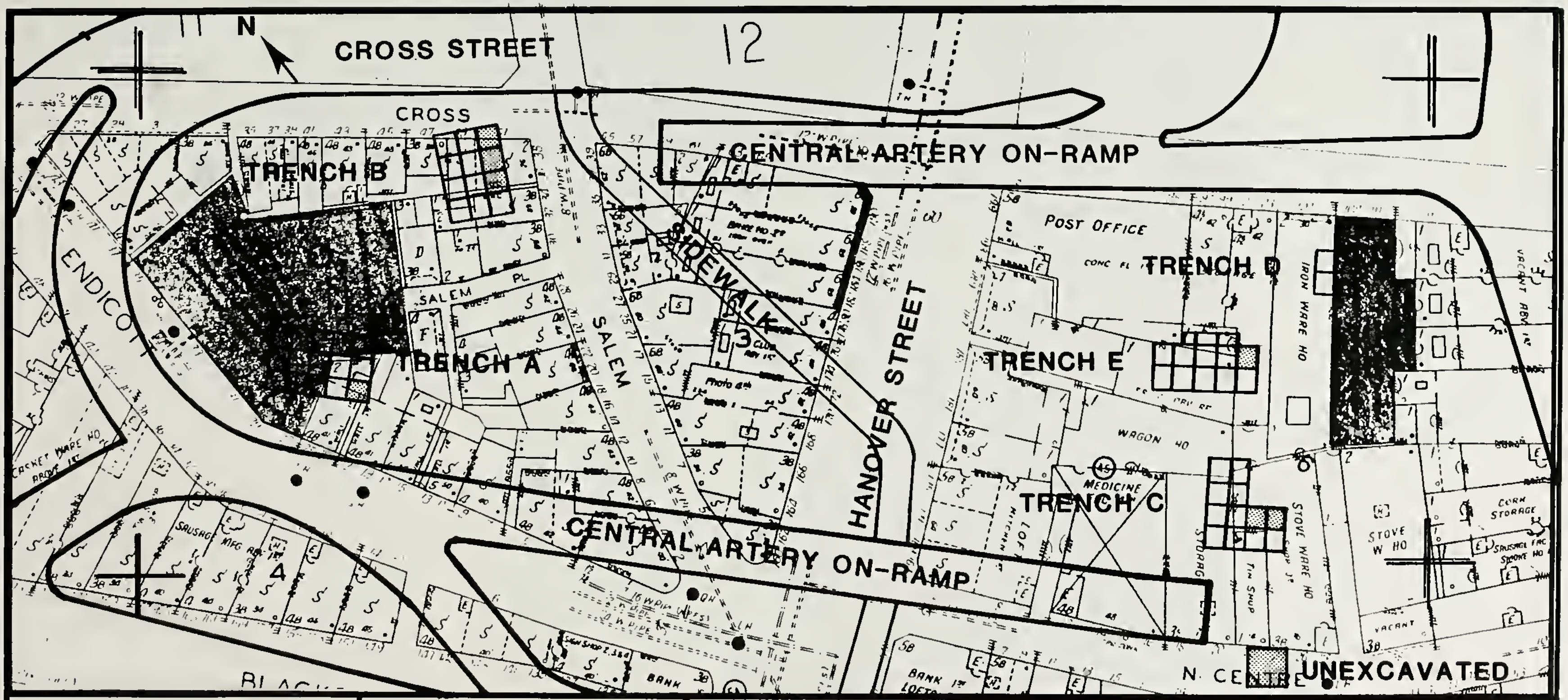


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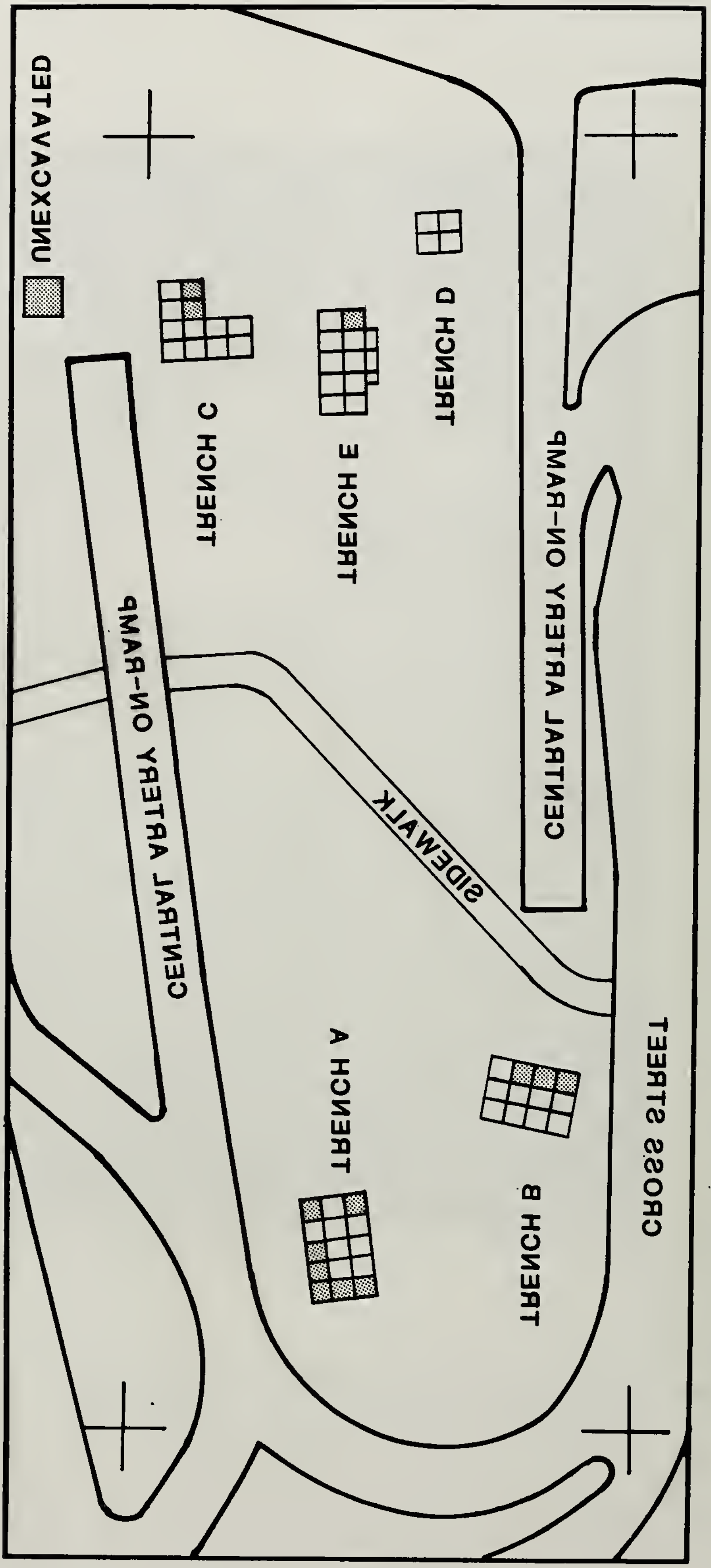
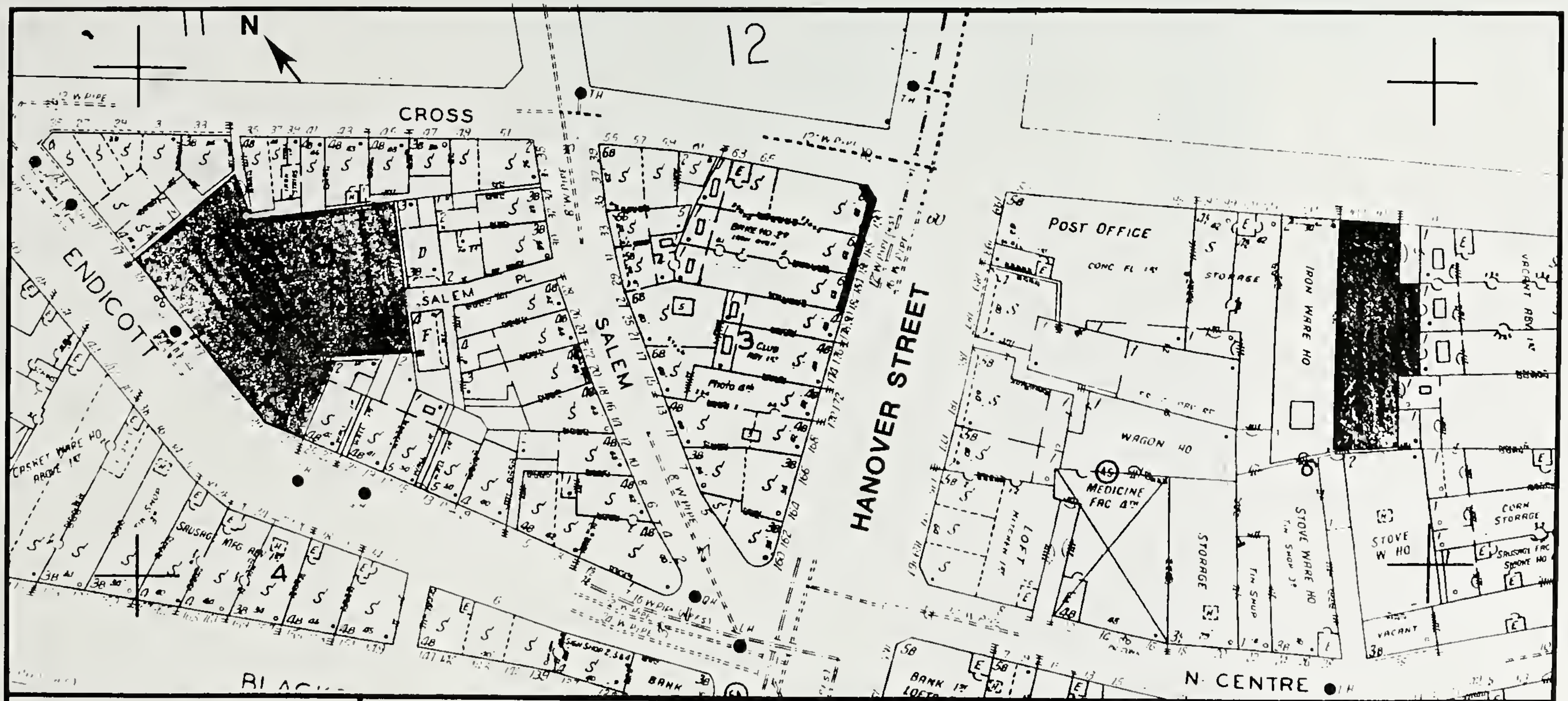
Figure 4.1 Modern Plan of NE03 over Historic Map of NE03 Area (Sanborn 1929: Pls. 17, 18) Showing Location of Test Trenches


UNEXCAVATED
TRENCH A
TRENCH B
TRENCH C
TRENCH D
TRENCH E
CENTRAL ARTERY ON-RAMP
CENTRAL ARTERY ON-RAMP
SIDEWALK
CROSS STREET



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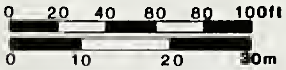

Figure 4.1 Modern Plan of NE03 over Historic Map of NE03 Area (Sanborn 1929: Pls. 17, 18) Showing Location of Test Trenches

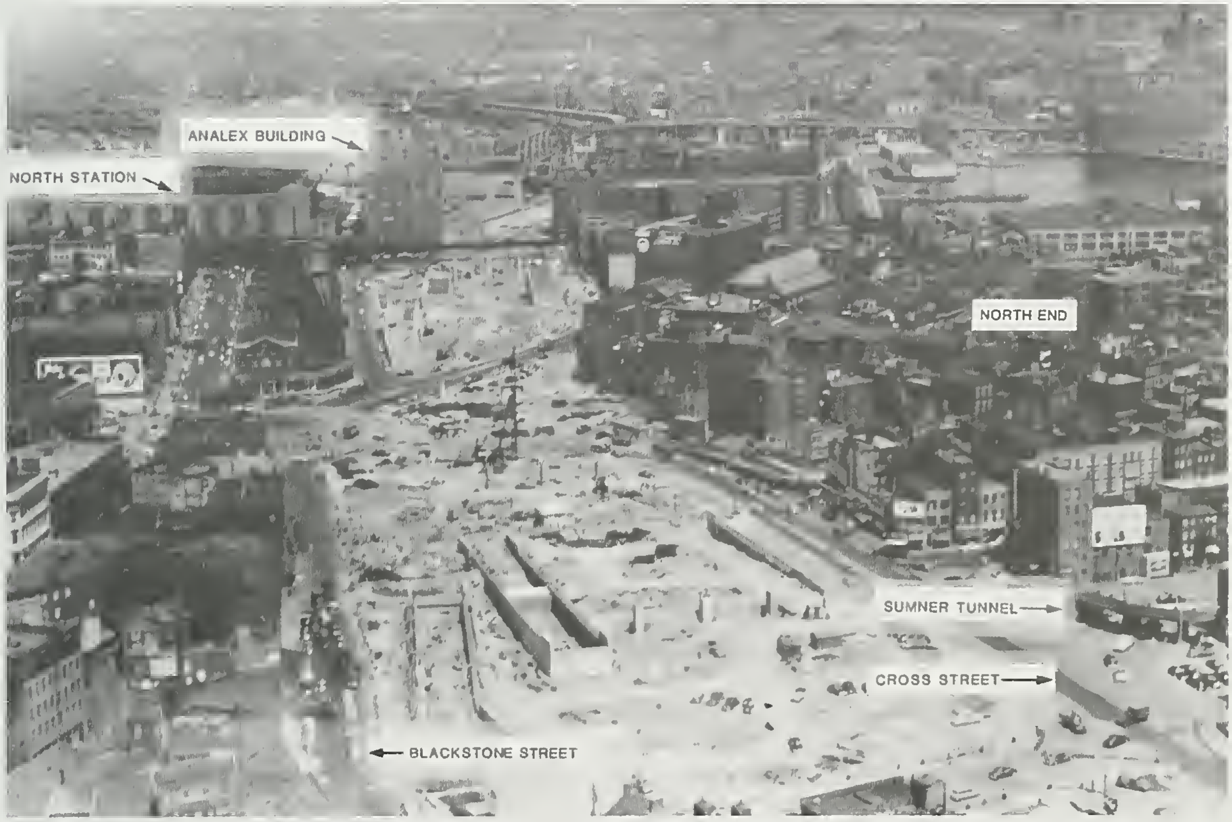

Figure 4.2 Photograph of Block NE03 During Construction of the Central Artery in the 1950s

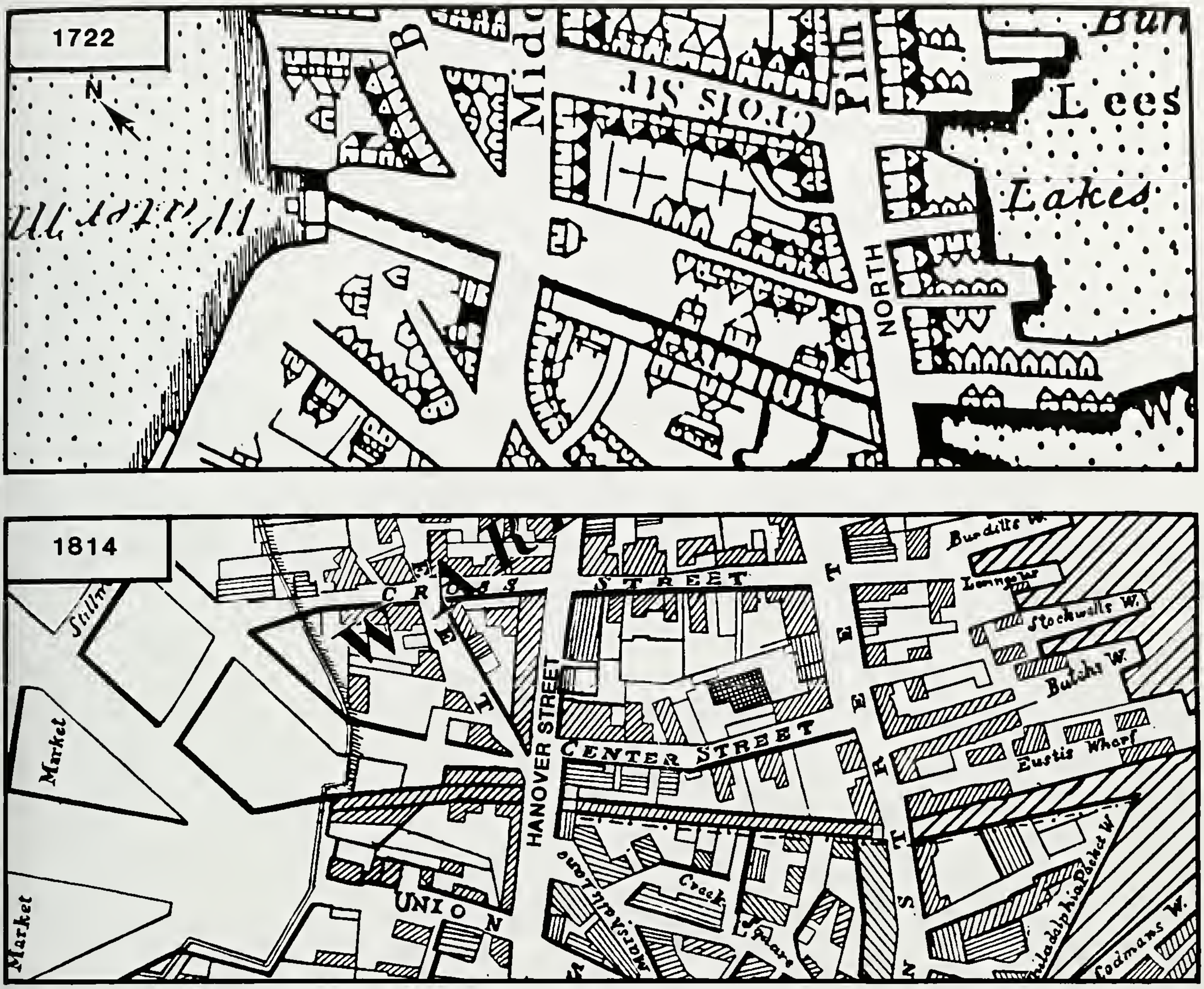

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Figure 4.3 Block NE03 from Bonner 1722, Hales 1814, and Slatter and Callan 1852

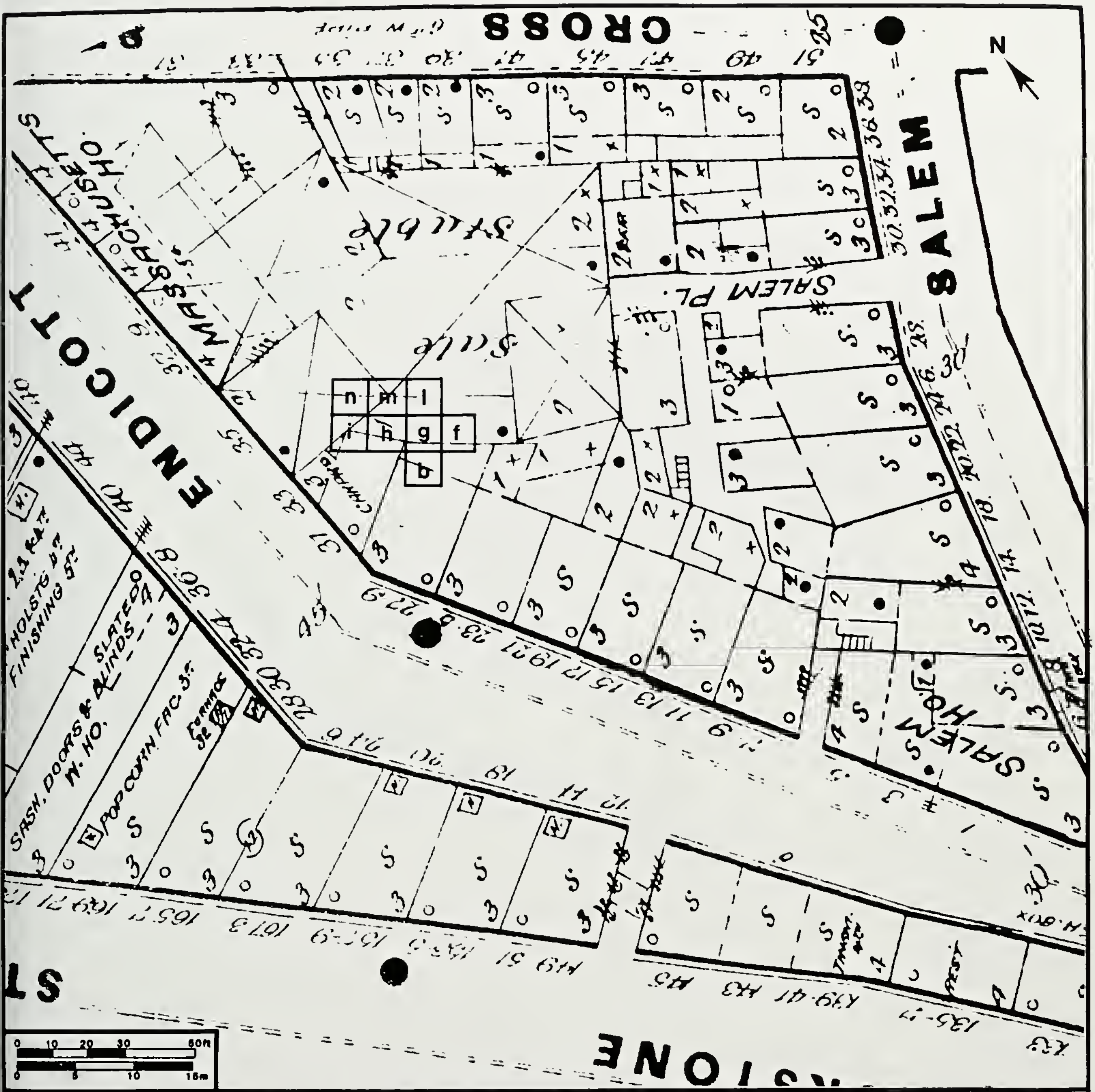

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Figure 4.4 NE03, Trench A on Sanborn 1885 (PL. 14)

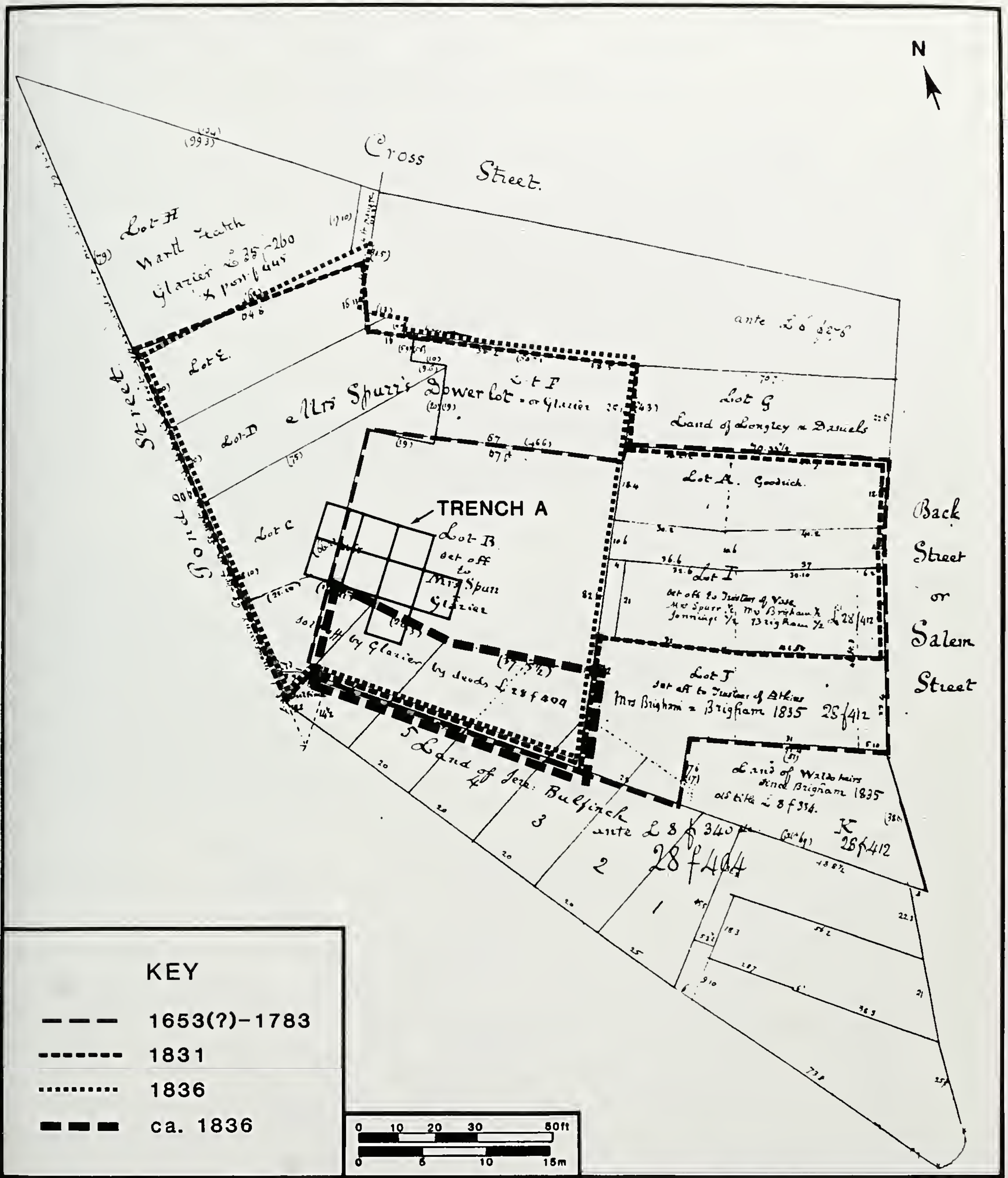

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Figure 4.5 NE03, Trench A on Plan from Bowditch 14:336

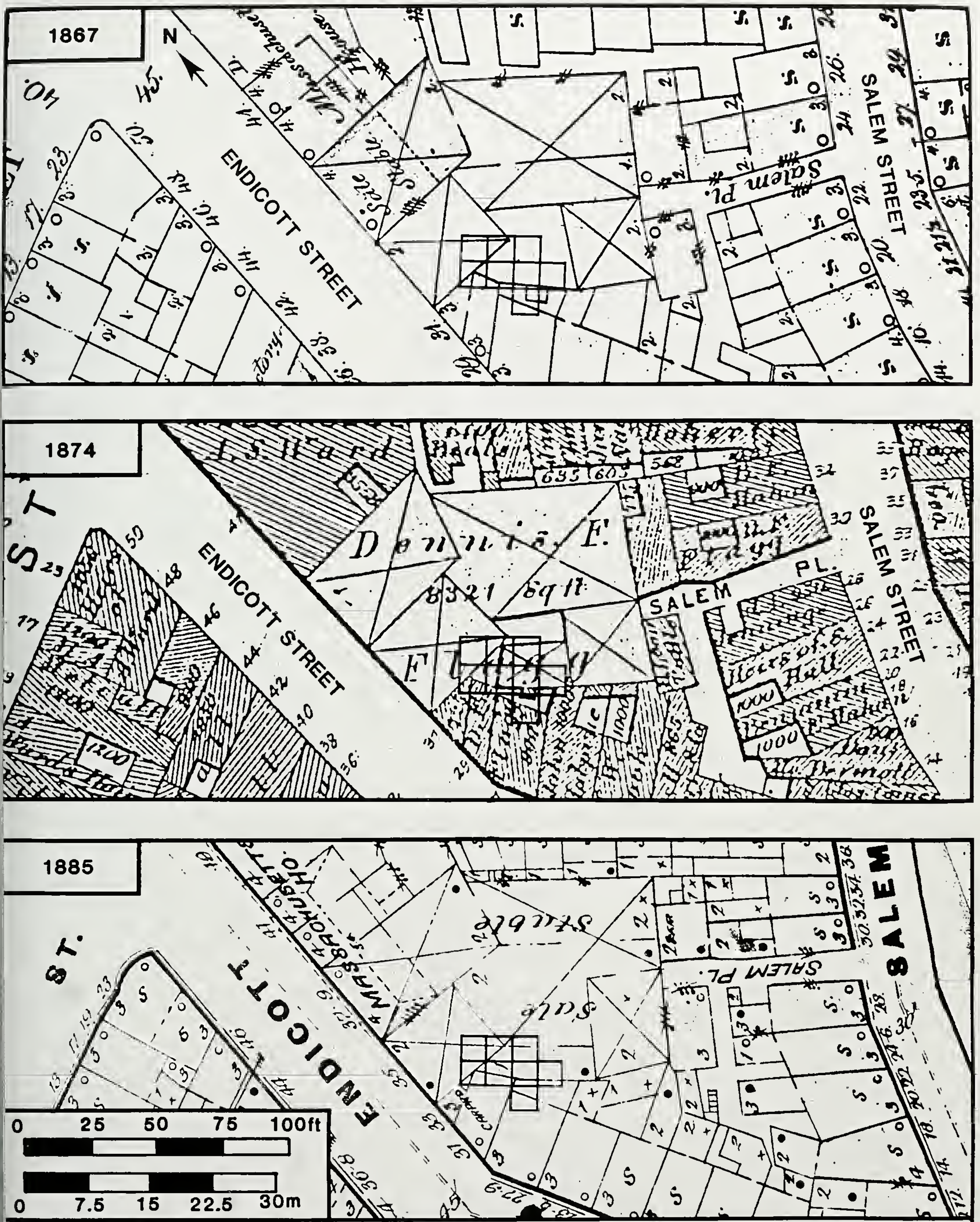

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Figure 4.6 NE03, Trench A on Sanborn 1867 (PL. 7), Hopkins 1874 (PL. C), and Sanborn 1885 (PL. 14)

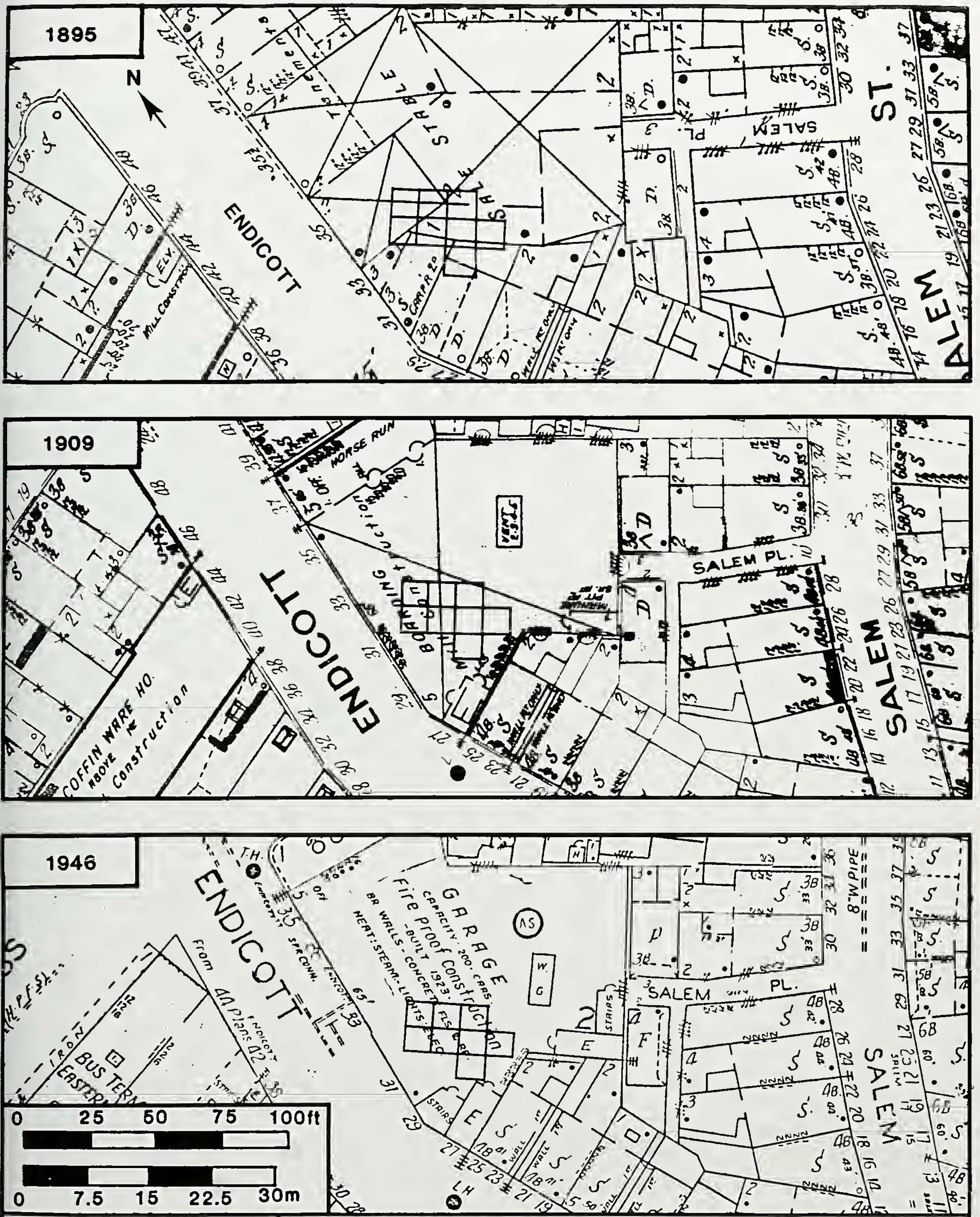

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Figure 4.7 NE03, Trench A on Sanborn 1895 (Pl. 27), Sanborn 1909 (Pl. 27), and Sanborn 1946 (Pl. 17)

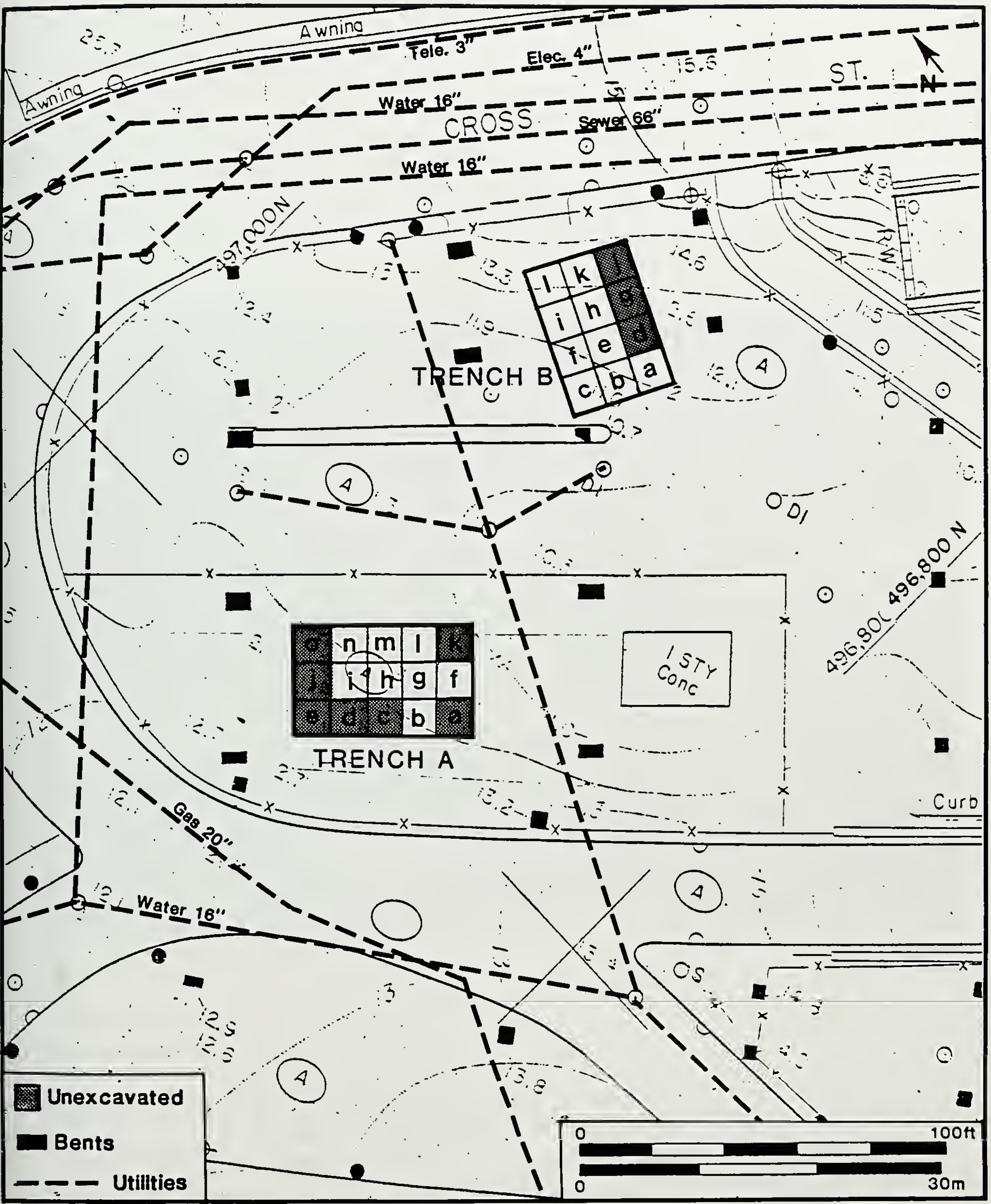

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Figure 4.8 NE03, Trenches A and B. Modern Plan

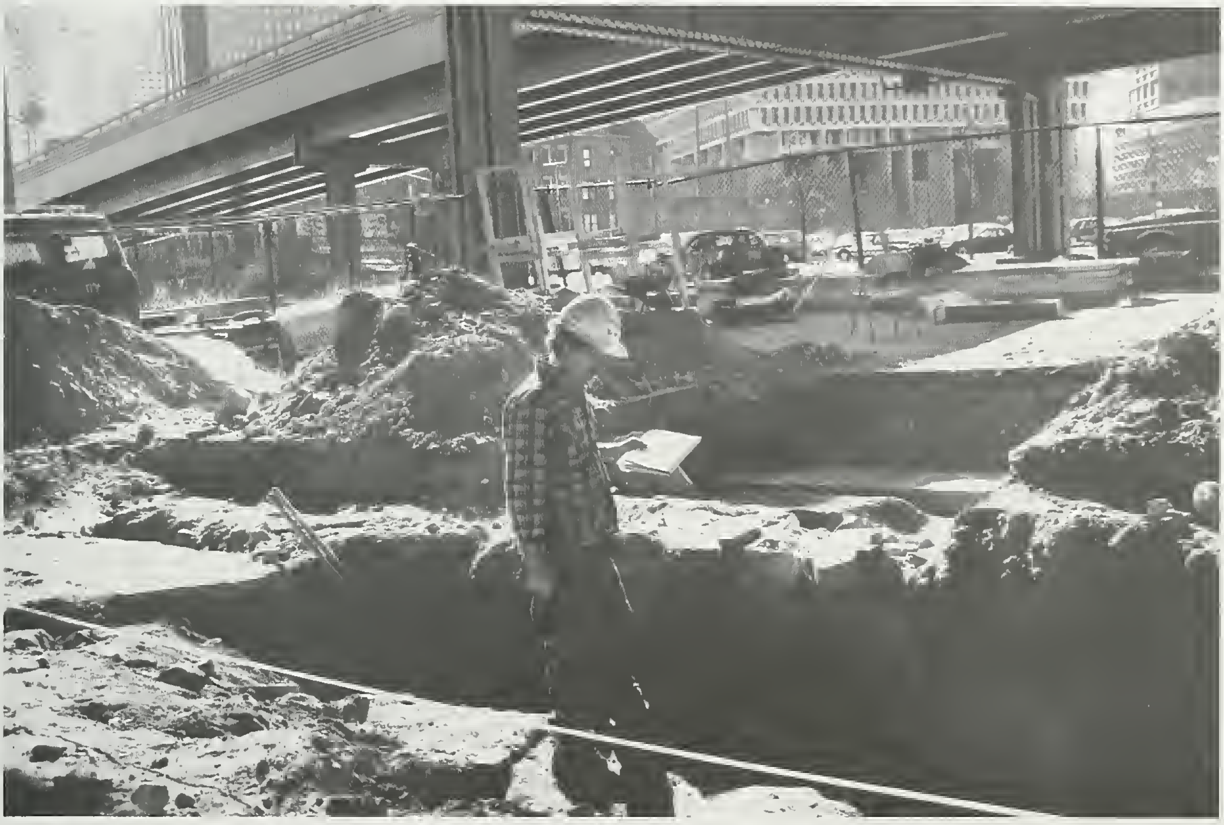


Figure 4.9 NE03, Trench A during Excavation

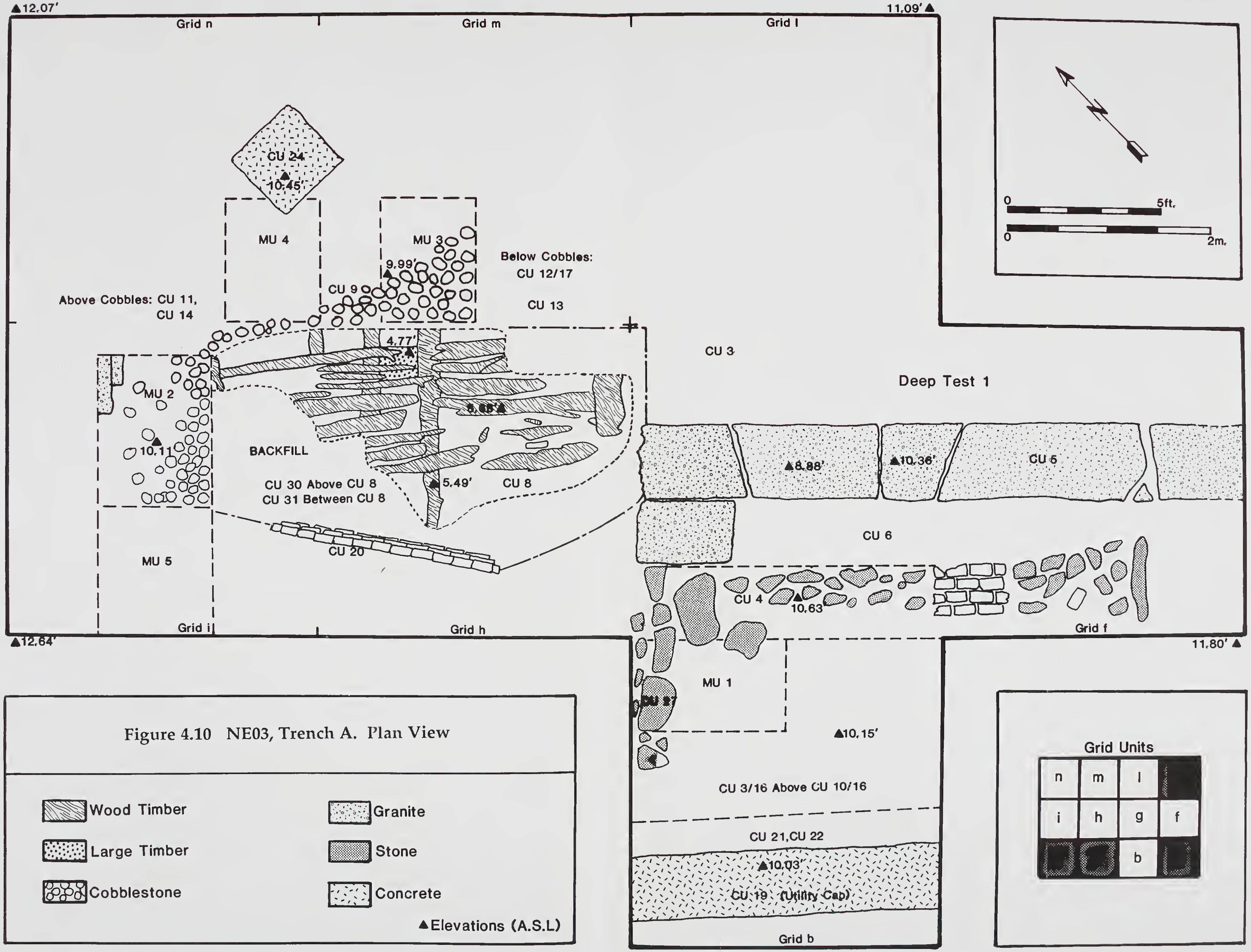
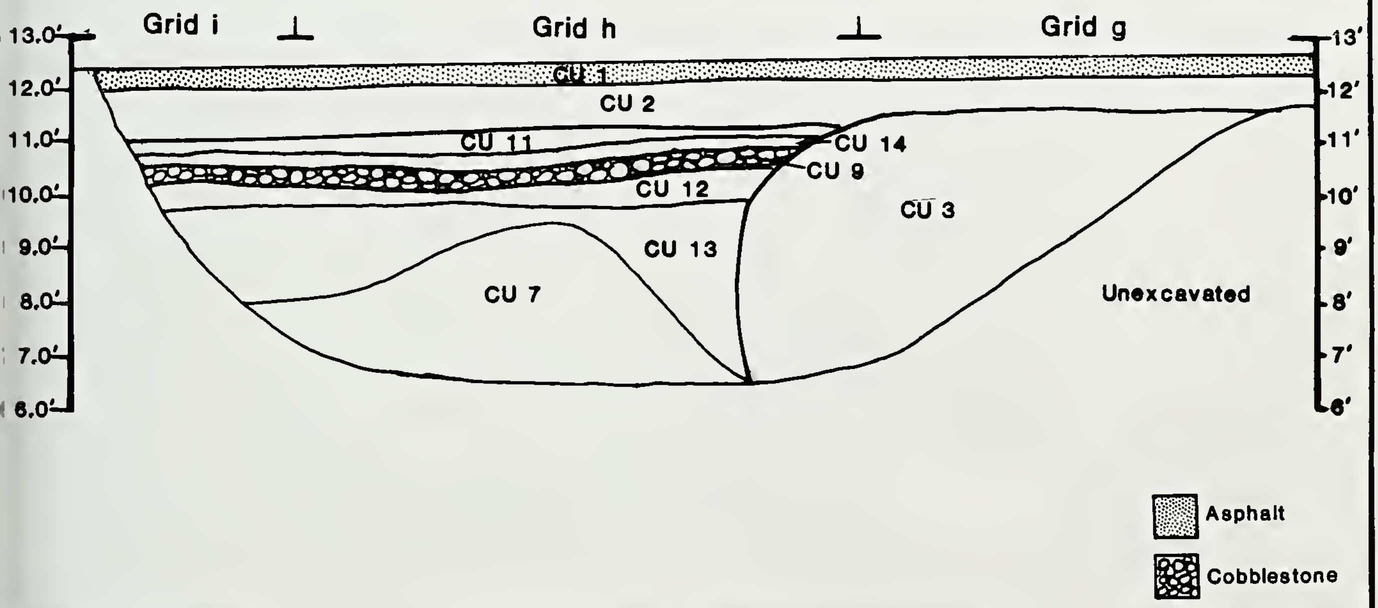


Figure 4.10 NE03, Trench A. Plan View



I-90/I-93 Project Phase II Archaeology Office of Public Archaeology Boston University	Figure 4.11 NE03, Trench A. North Wall Profile of Grids i, h and g

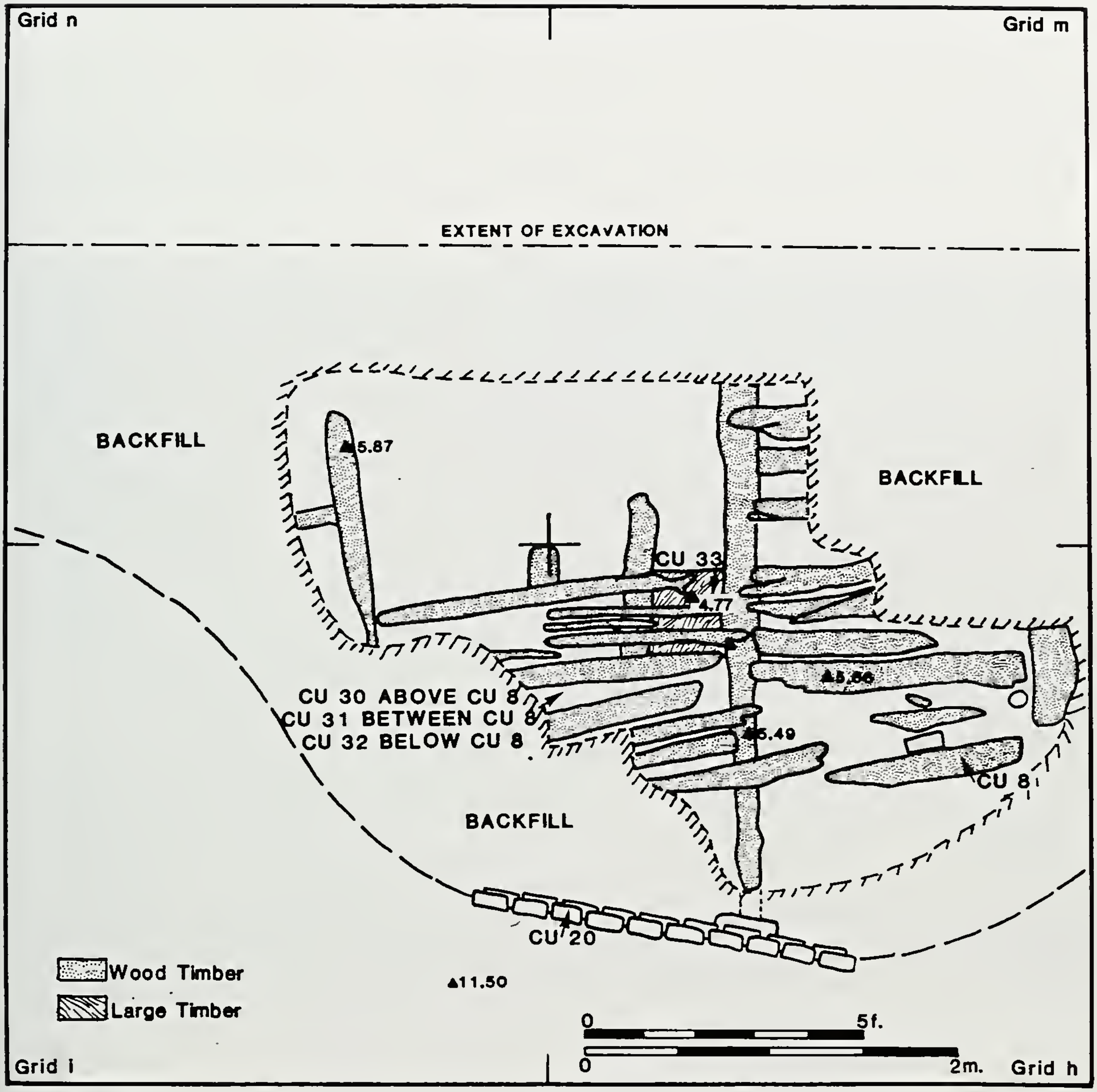


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Figure 4.12 NE03, Trench A. Plan of Grids n, m, i and h

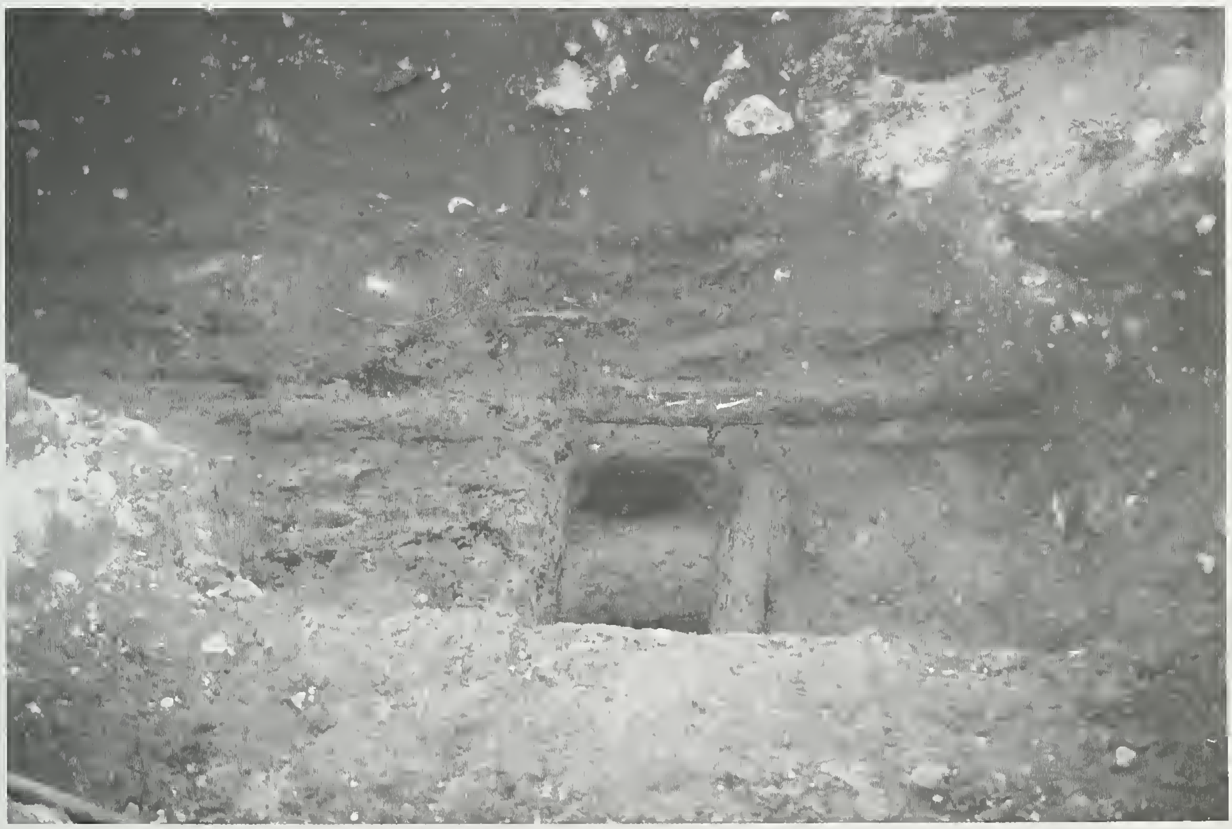

Figure 4.13 NE03, Trench A. Wharf Feature (CU 8)

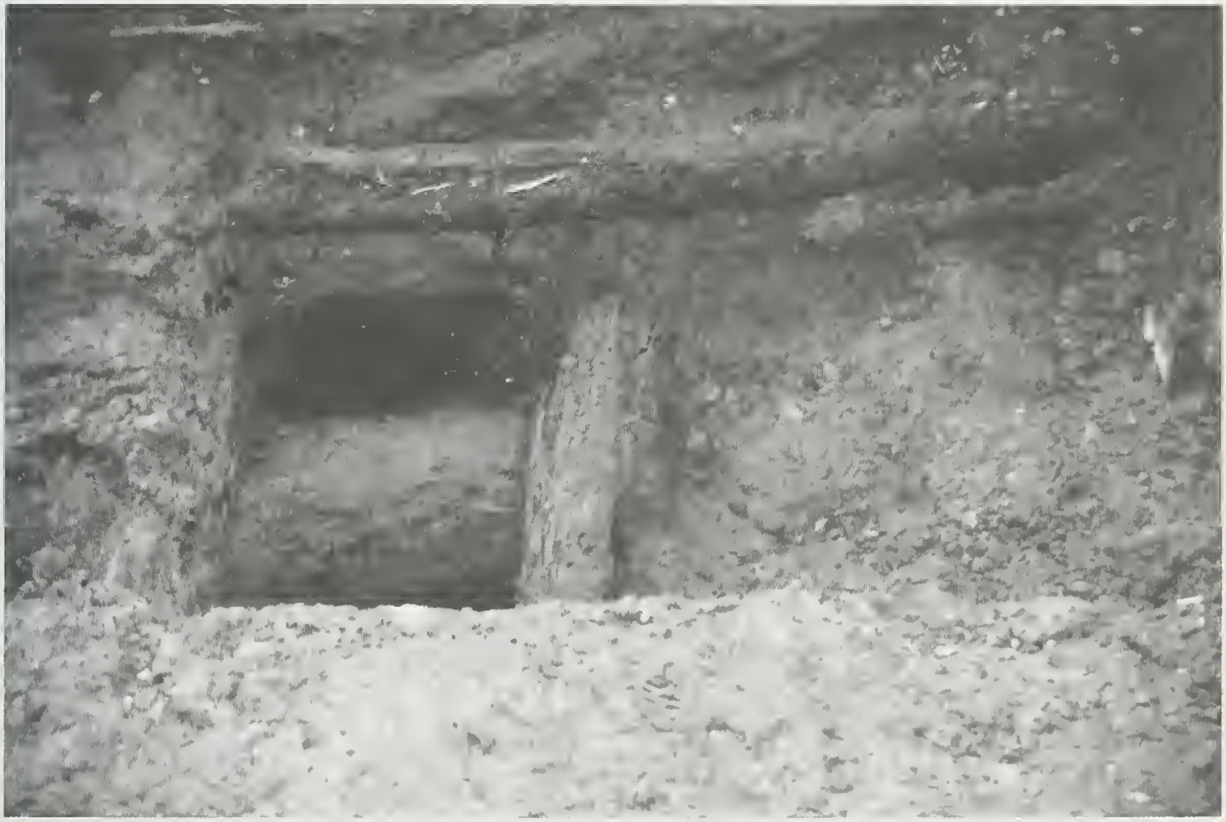

Figure 4.14 NE03, Trench A. Wharf Feature (CU 8) Showing Largest Underlying Timber (CU 33)

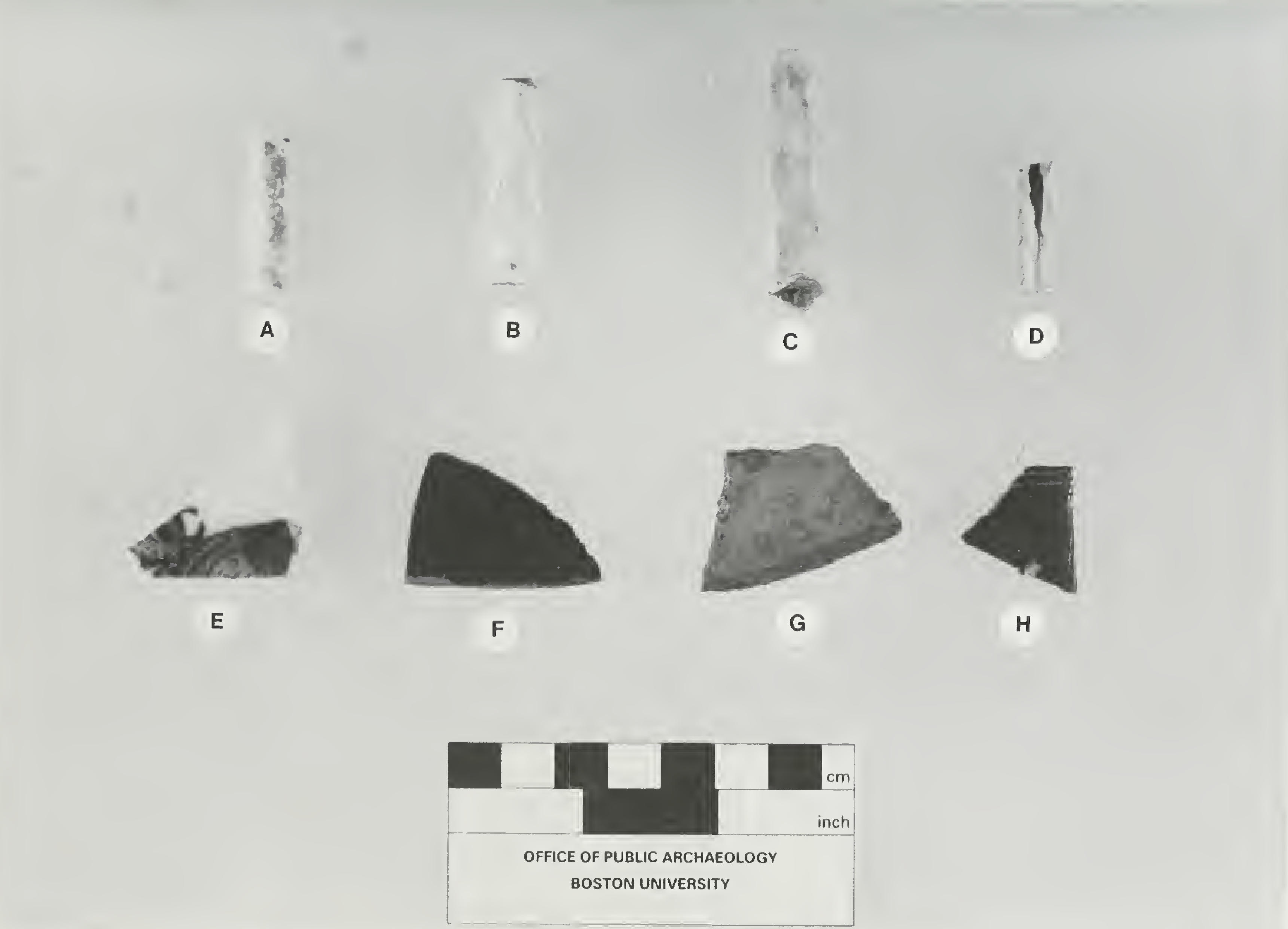

Figure 4.15 Artifacts from CU 30 (NE03A). A, Tin-glazed; B, C, Westerwald Stoneware; D, Bottle Neck; E, Cork for D; F, Bottle Glass

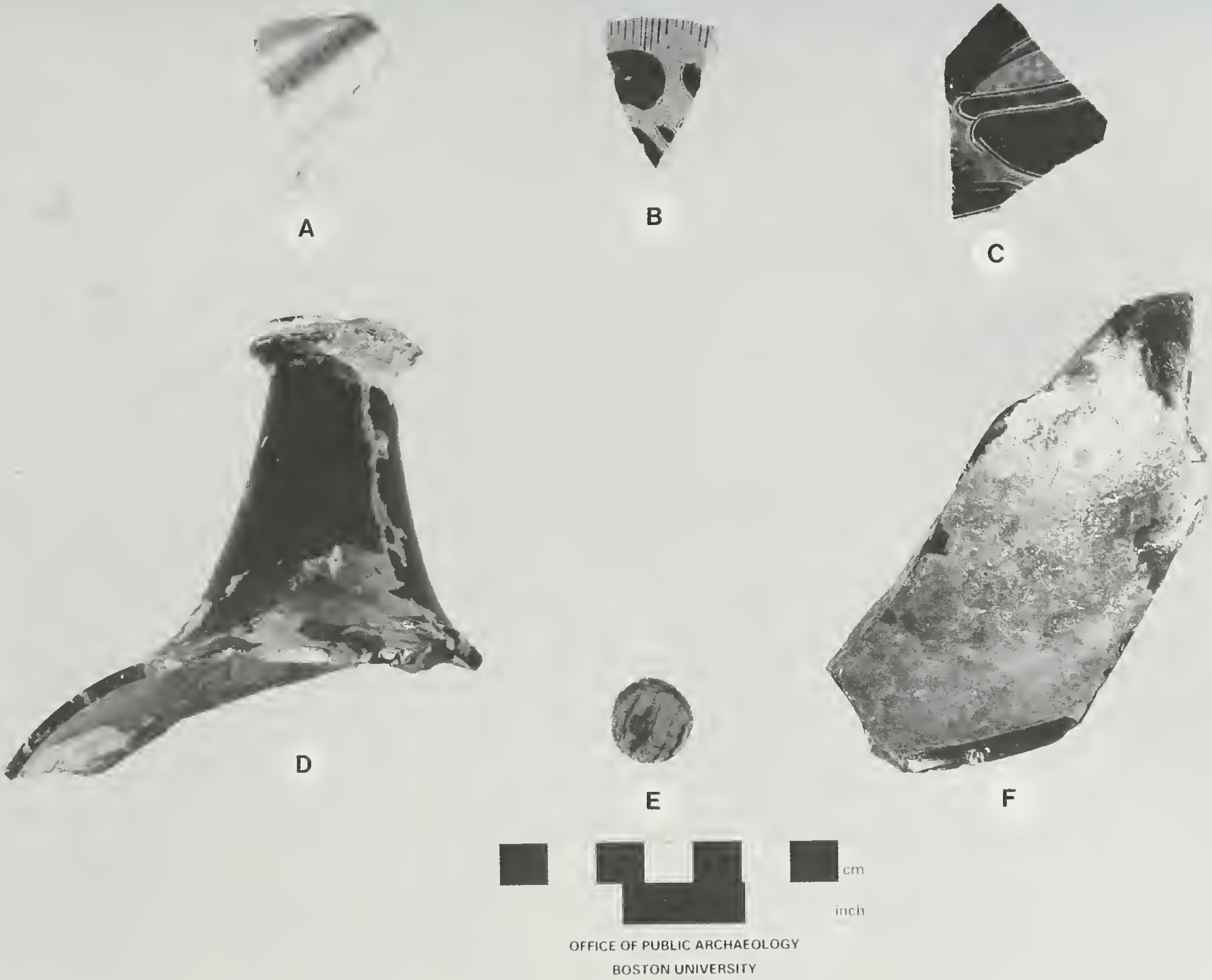

Figure 4.16 Artifacts from CU 31 (NE03A). A-D, Kaolin Pipe Stem Fragment; E, Chinese Export Porcelain; F-H, Redware

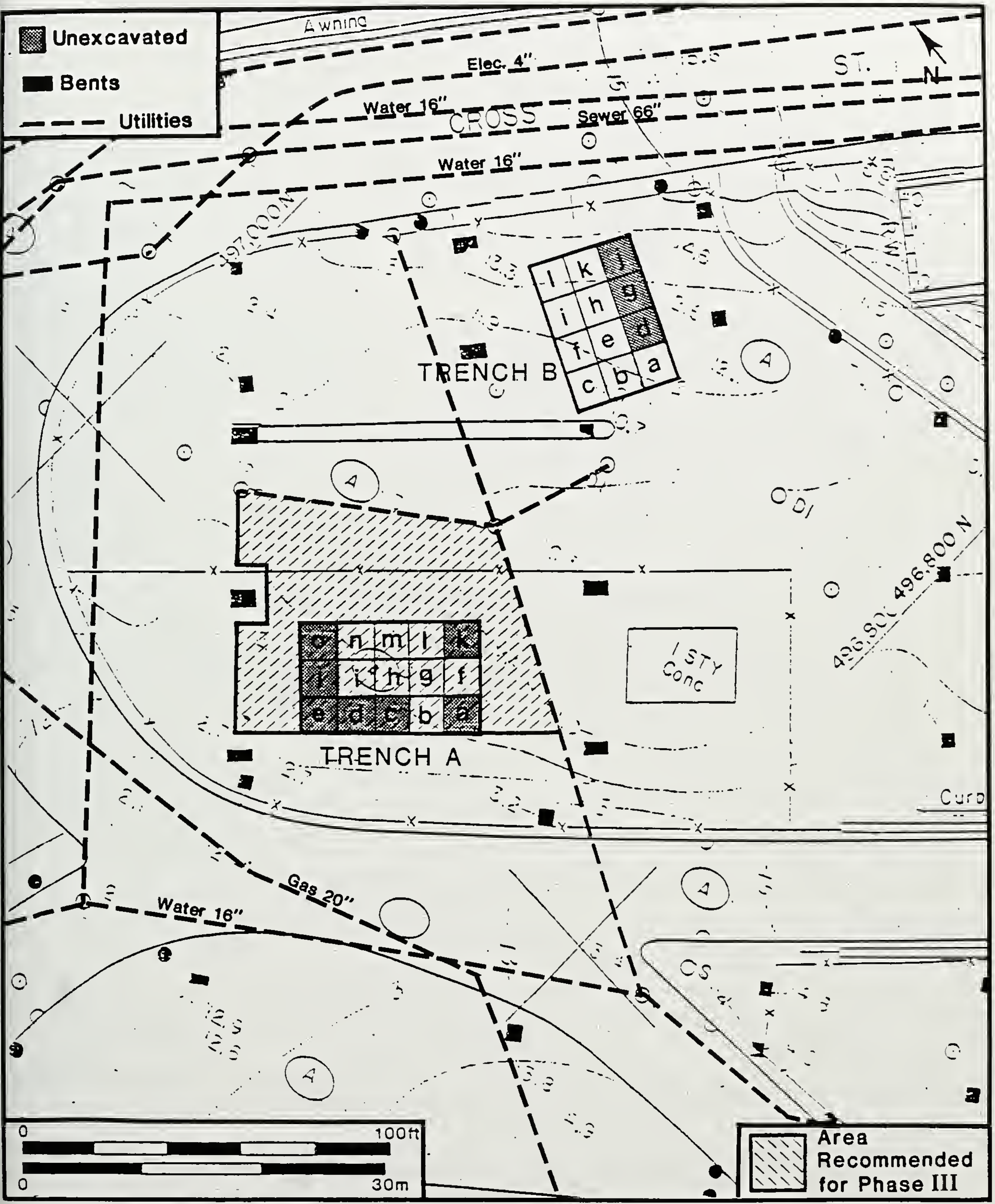

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Figure 4.17 NE03, Trench A. Area Recommended for Phase III Excavation

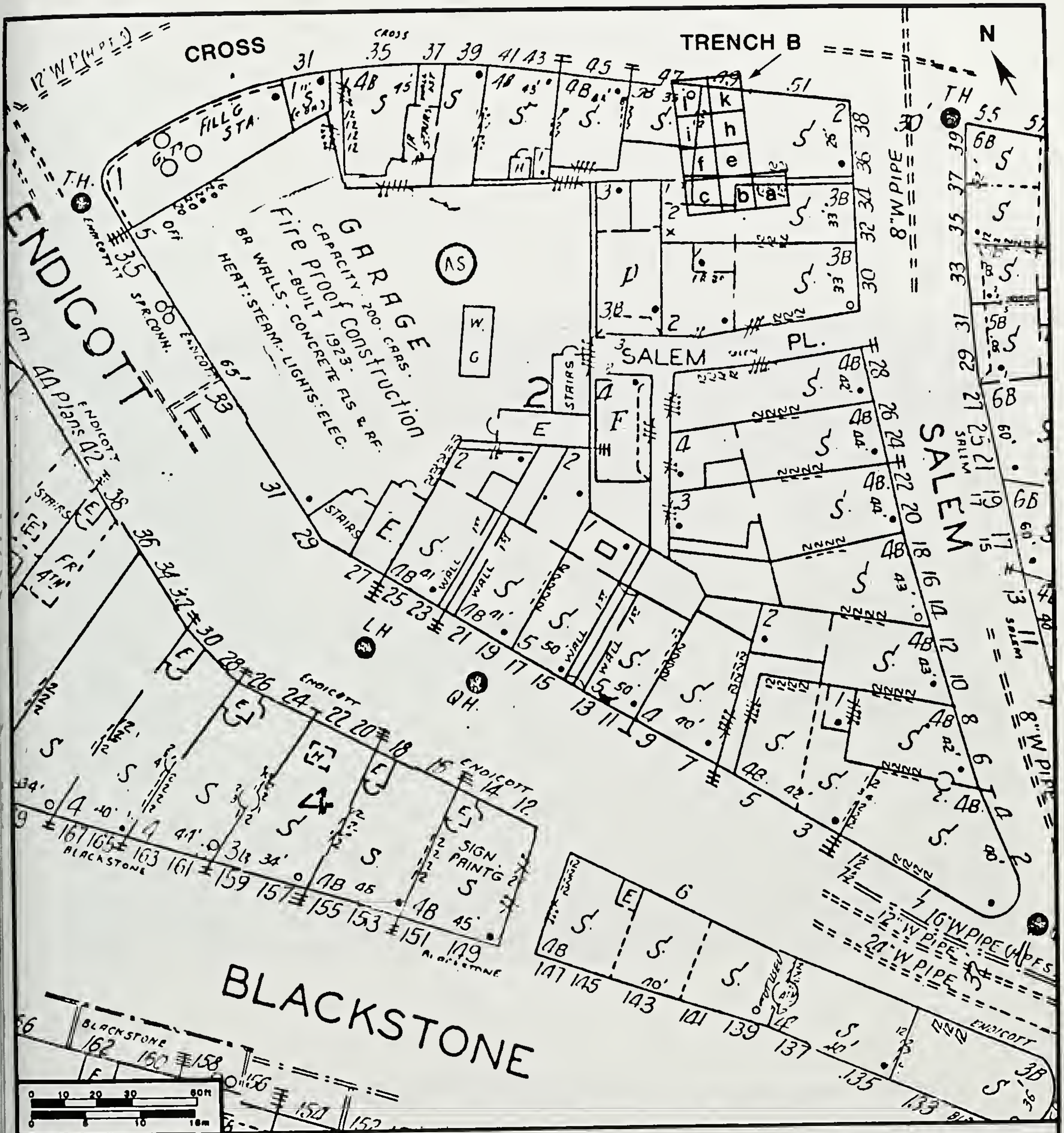

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Figure 4.18 NE03 Trench B on Sanborn 1946 (Pl. 17)

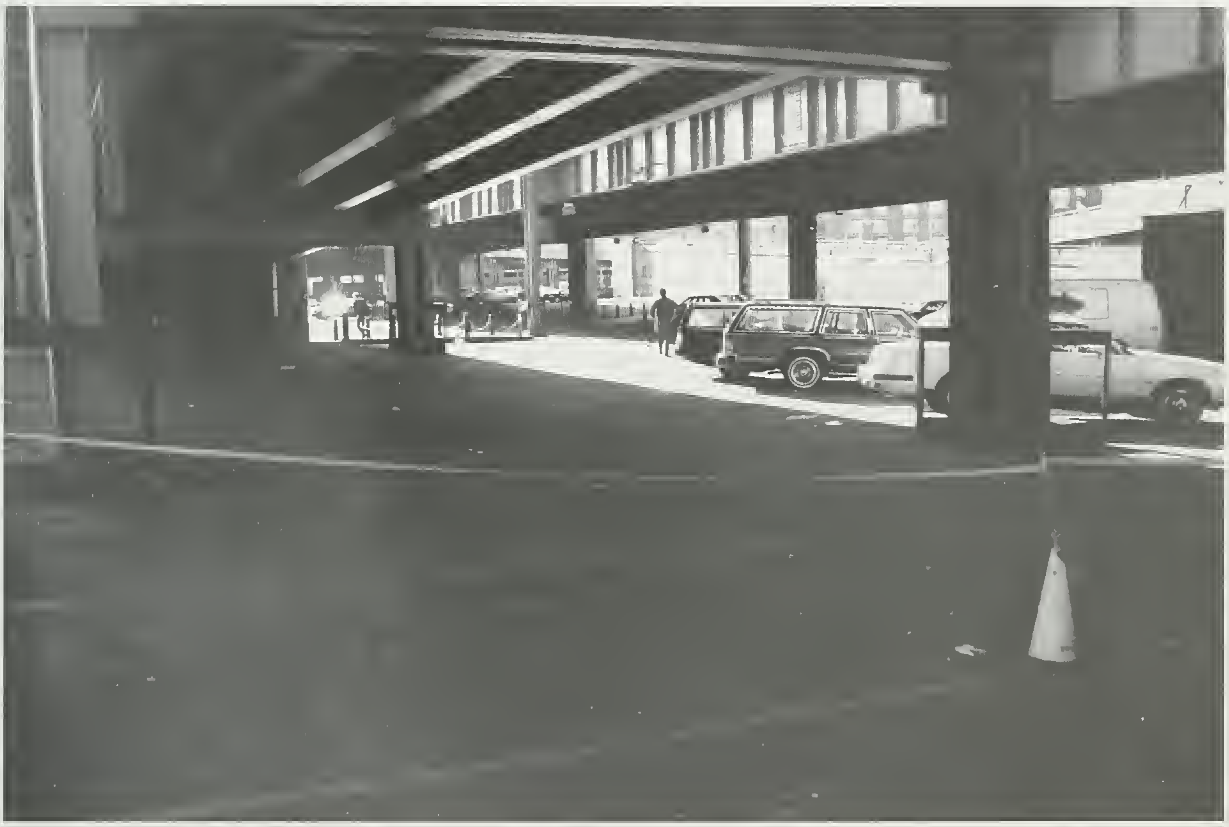

Figure 4.19 NE03 Trench B Prior to Excavation, Looking Southeast

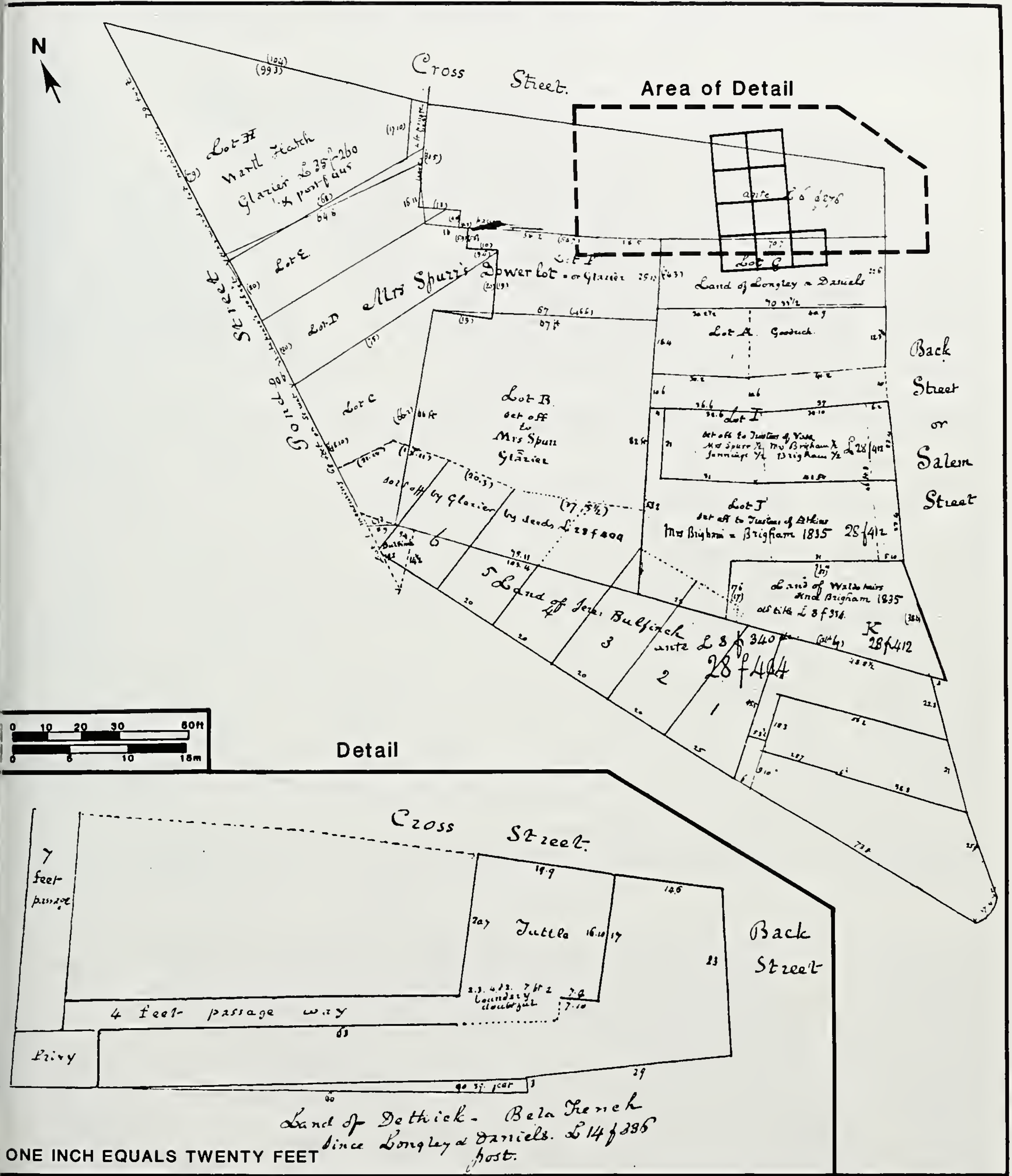
N
Cross Street.
Area of Detail
Lot H
Warth Fitch
Glazier £ 35 f 260
Lot E
Lot D
Mrs Spurr's Dower lot
Lot C
Lot B
set off to Mrs Spurr Glazier
set off by Glazier by deeds £ 28 f 409
Lot G
Land of Longley & Daniels
Lot A Goodrich
Lot I
Lot J
Mrs Brigham & Brigham 1835 28 f 412
Land of Waldo heirs And Brigham 1835
K
28 f 412
Land of Jer. Bulfinch ante £ 8 f 340
28 f 404
1
2
3
4
5
6
Bond Street
Back Street or Salem Street
0 10 20 30 60ft
0 5 10 18m
Detail
Cross Street.
7 feet passage
Tuttle
Back Street
4 feet passage way
boundary doubtful
Privy
Land of Dethick - Bela French
since Longley & Daniels. £ 14 f 386 post.
ONE INCH EQUALS TWENTY FEET

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Figure 4.20 NE03 Trench B on Plan from Bowditch 14: 336 with Detail from Bowditch 6: 276 Showing 3-foot Jog in Lot Line

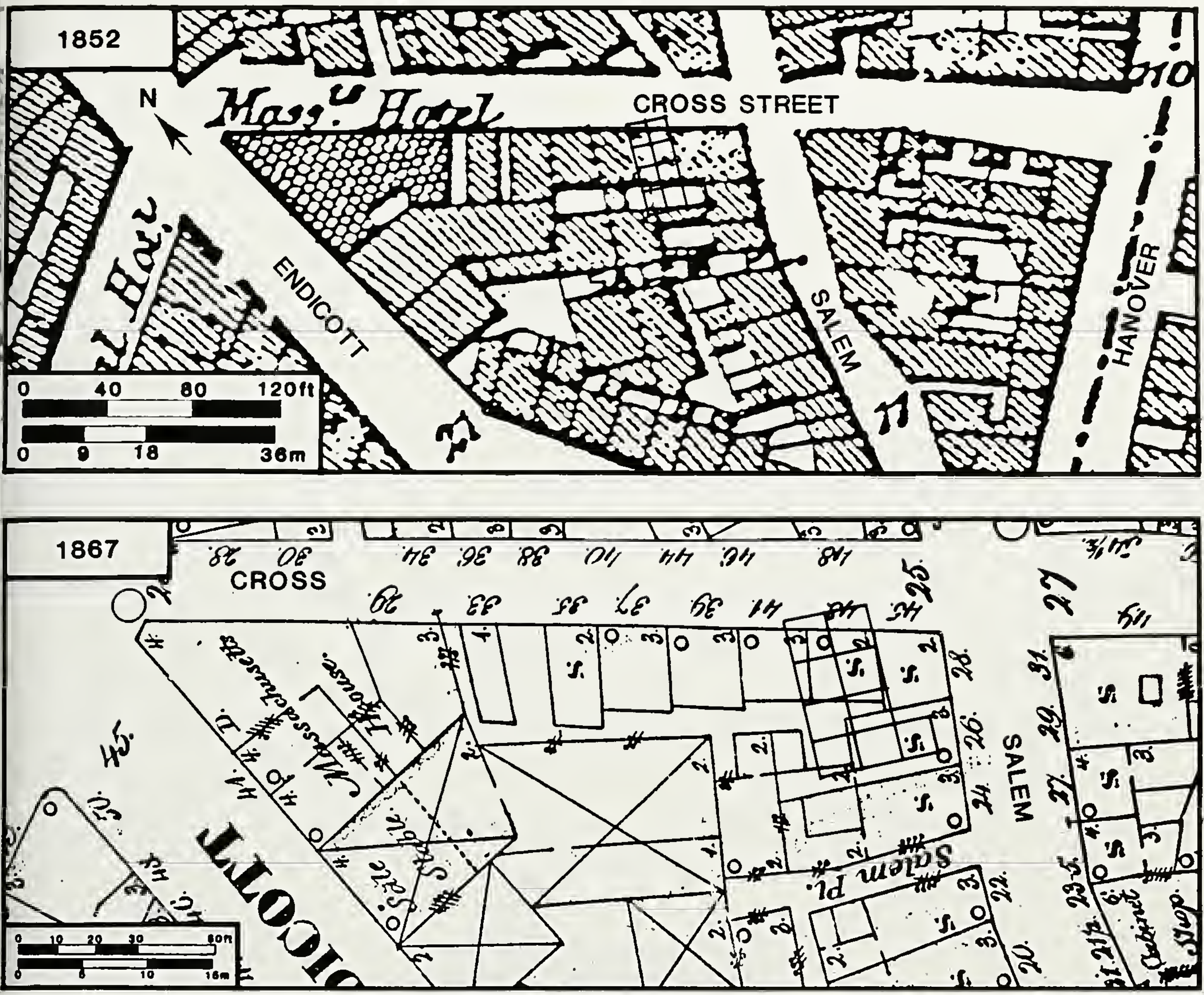

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Figure 4.21 NE03 Trench B on Slatter and Callan 1852, Sanborn 1867 (Pl. 7), Hopkins 1874 (Pl. C)

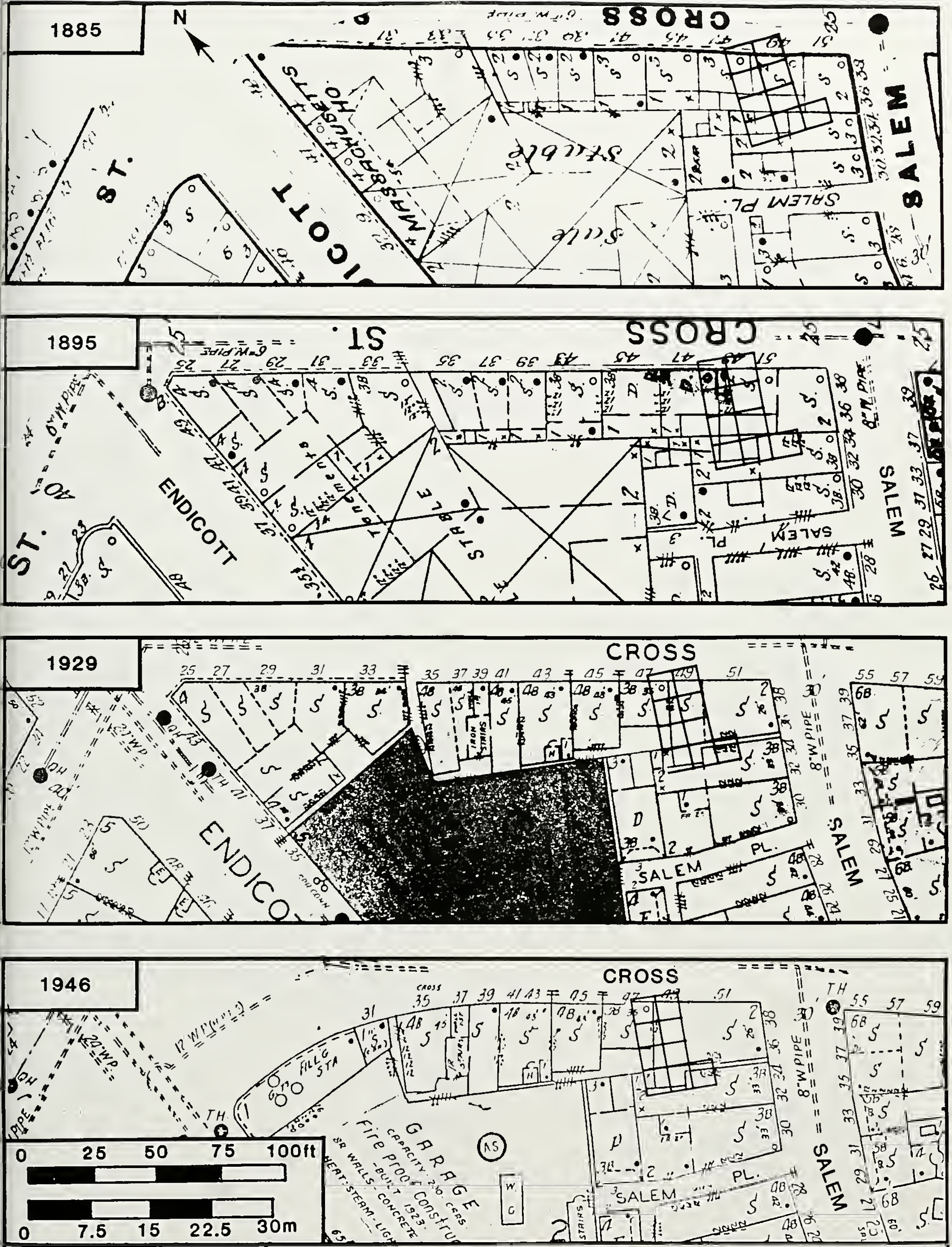

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Figure 4.22 NE03 Trench B on Sanborn 1885 (Pl. 14), Sanborn 1895 (Pl. 27), Sanborn 1929 (Pl. 17), Sanborn 1946 (Pl. 17)

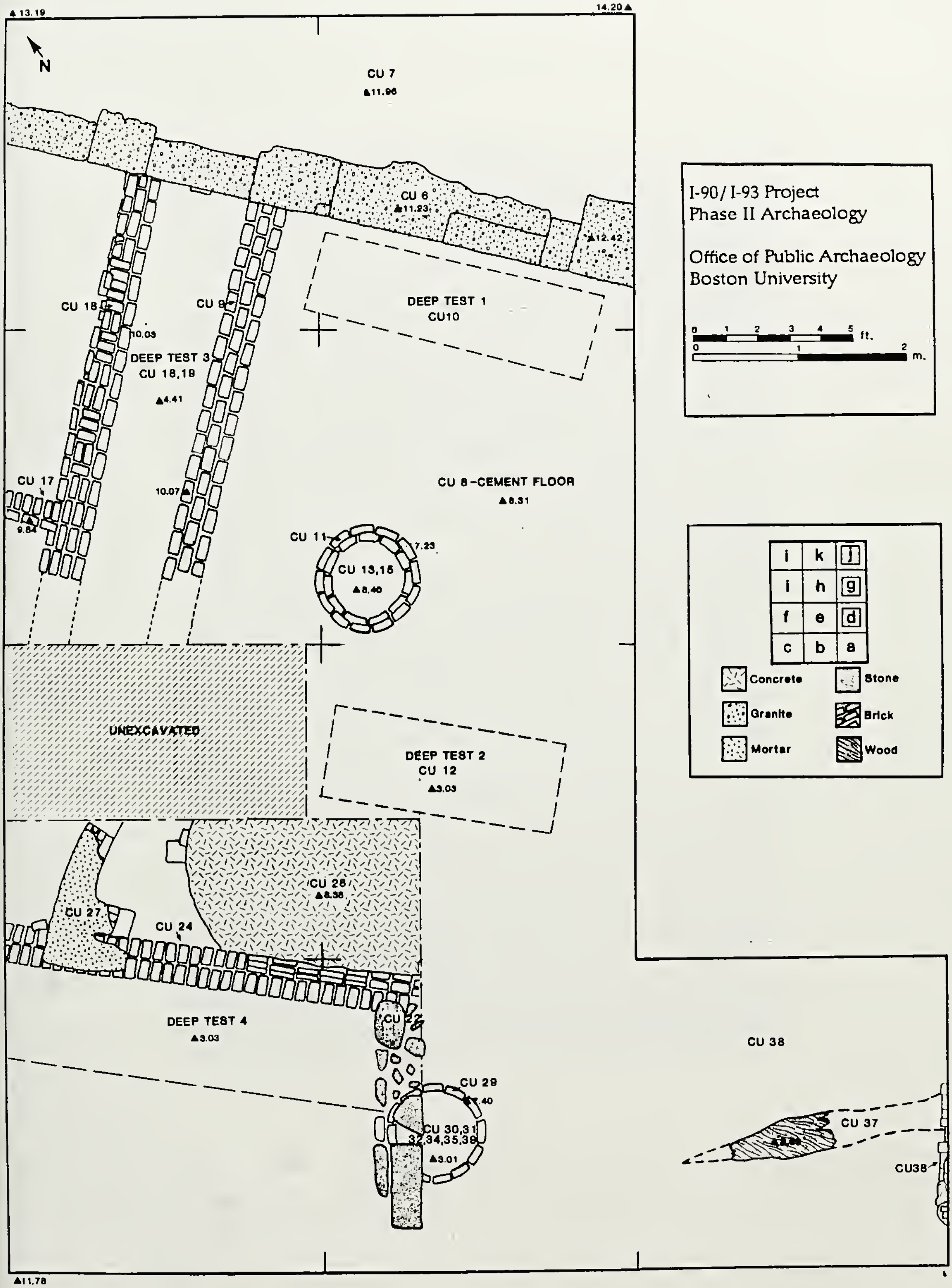

Figure 4.23 NE03 Trench B. Plan of Testing

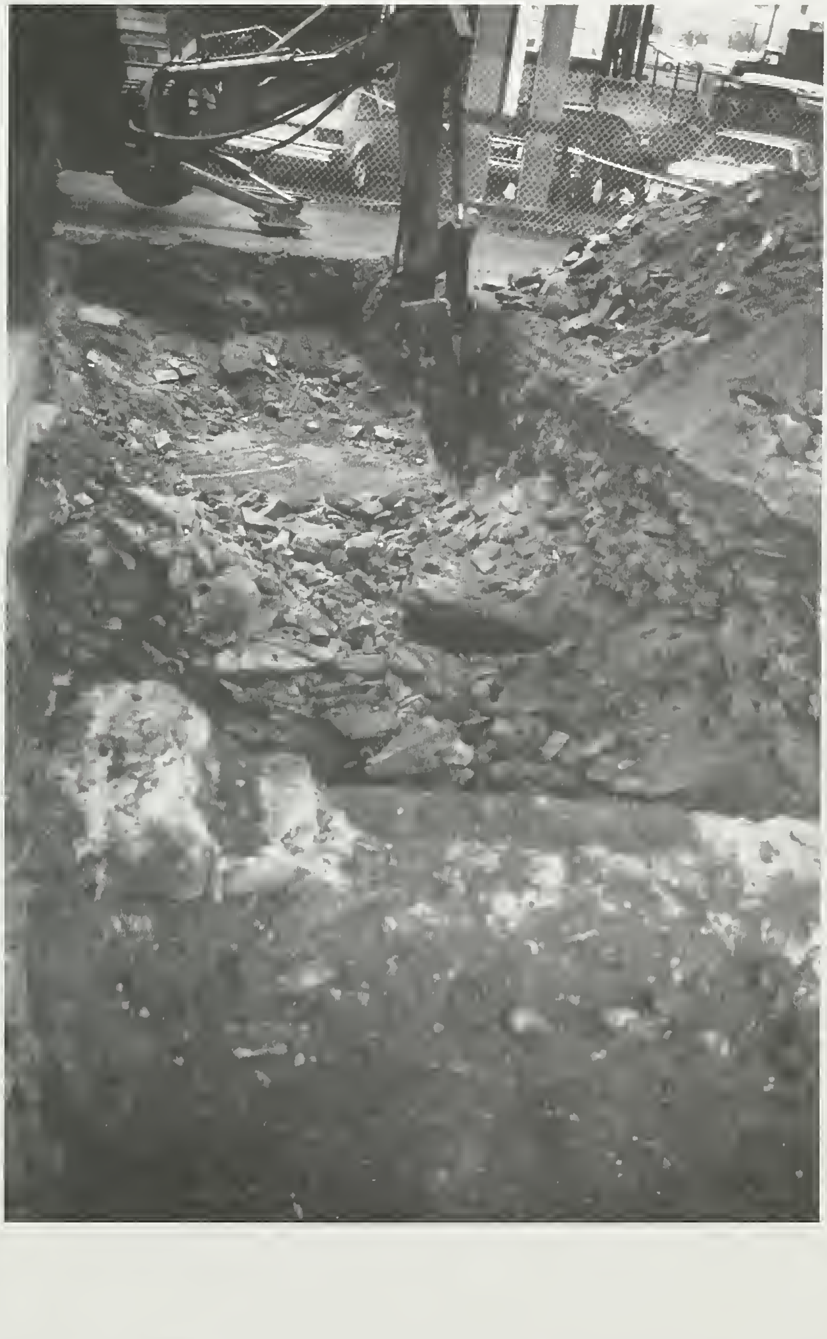

Figure 4.24 NE03 Trench B. Hoe-ram Being Used to Break Through Cement Basement Floor

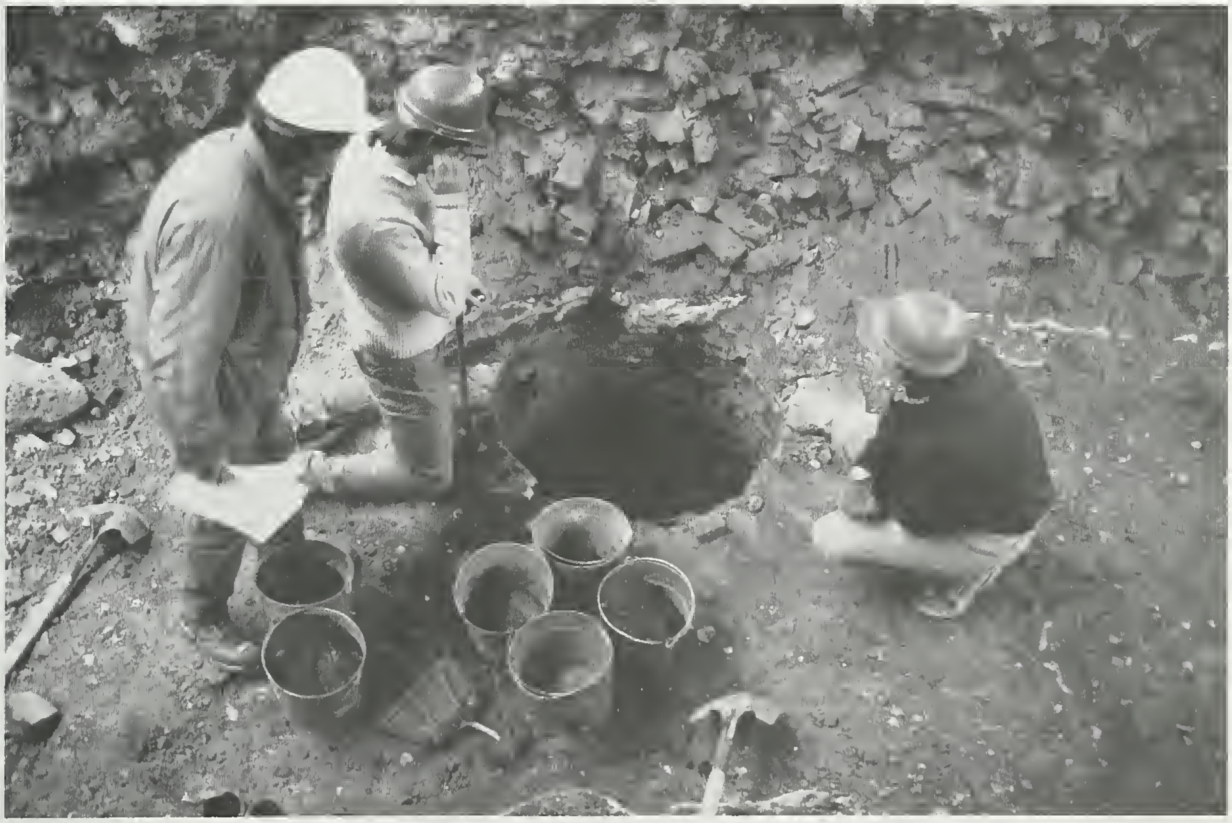

Figure 4.25 NE03 Trench B. CU 11, Looking West

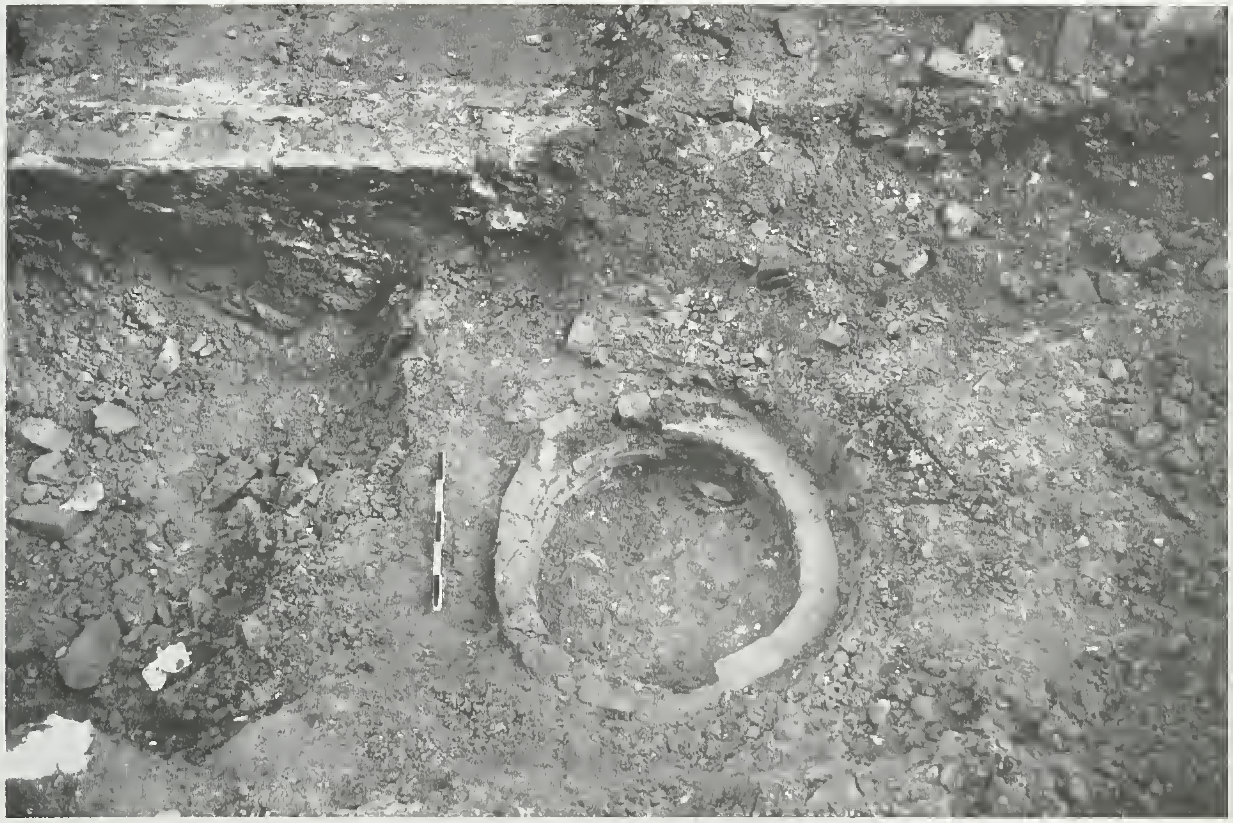

Figure 4.26 NE03 Trench B. CU 29, Looking North

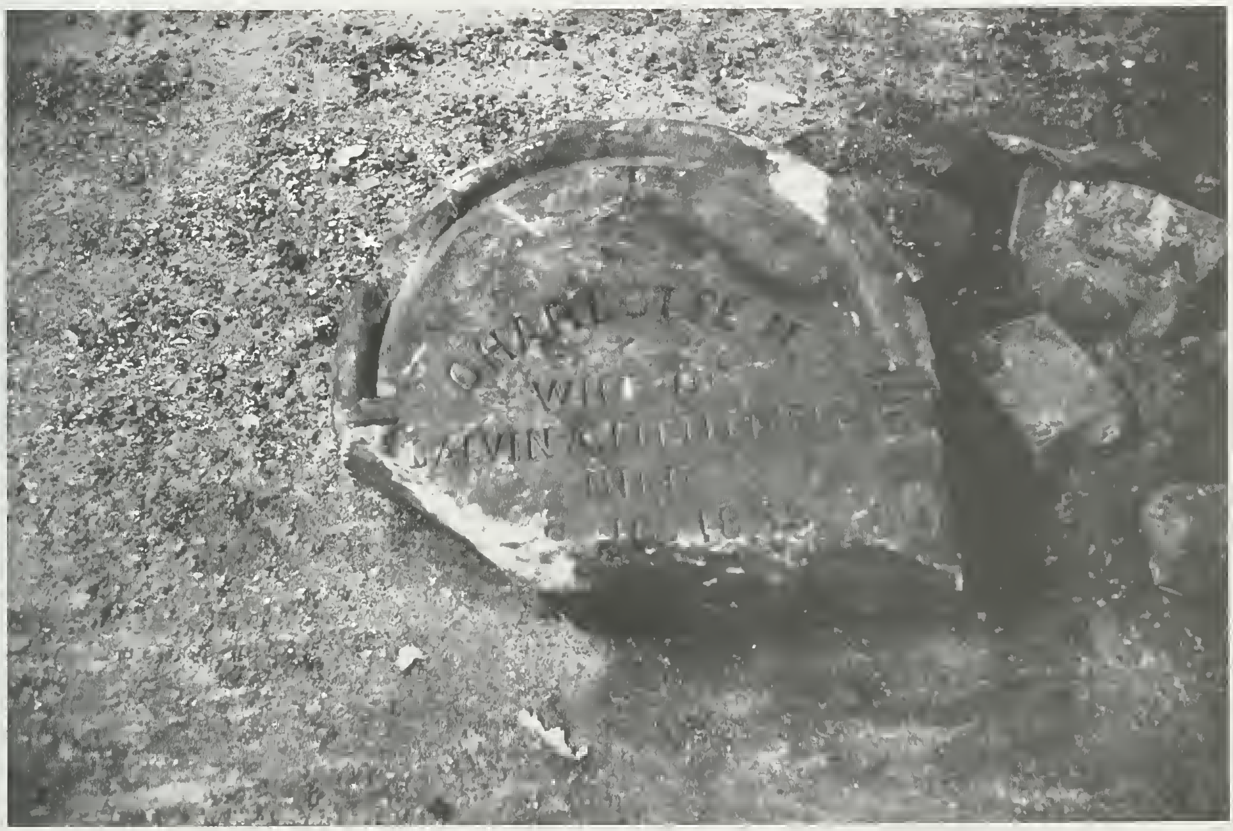

Figure 4.27 NE03 Trench B. Section of Gravestone of Charlotte Littlefield Found in CU 4

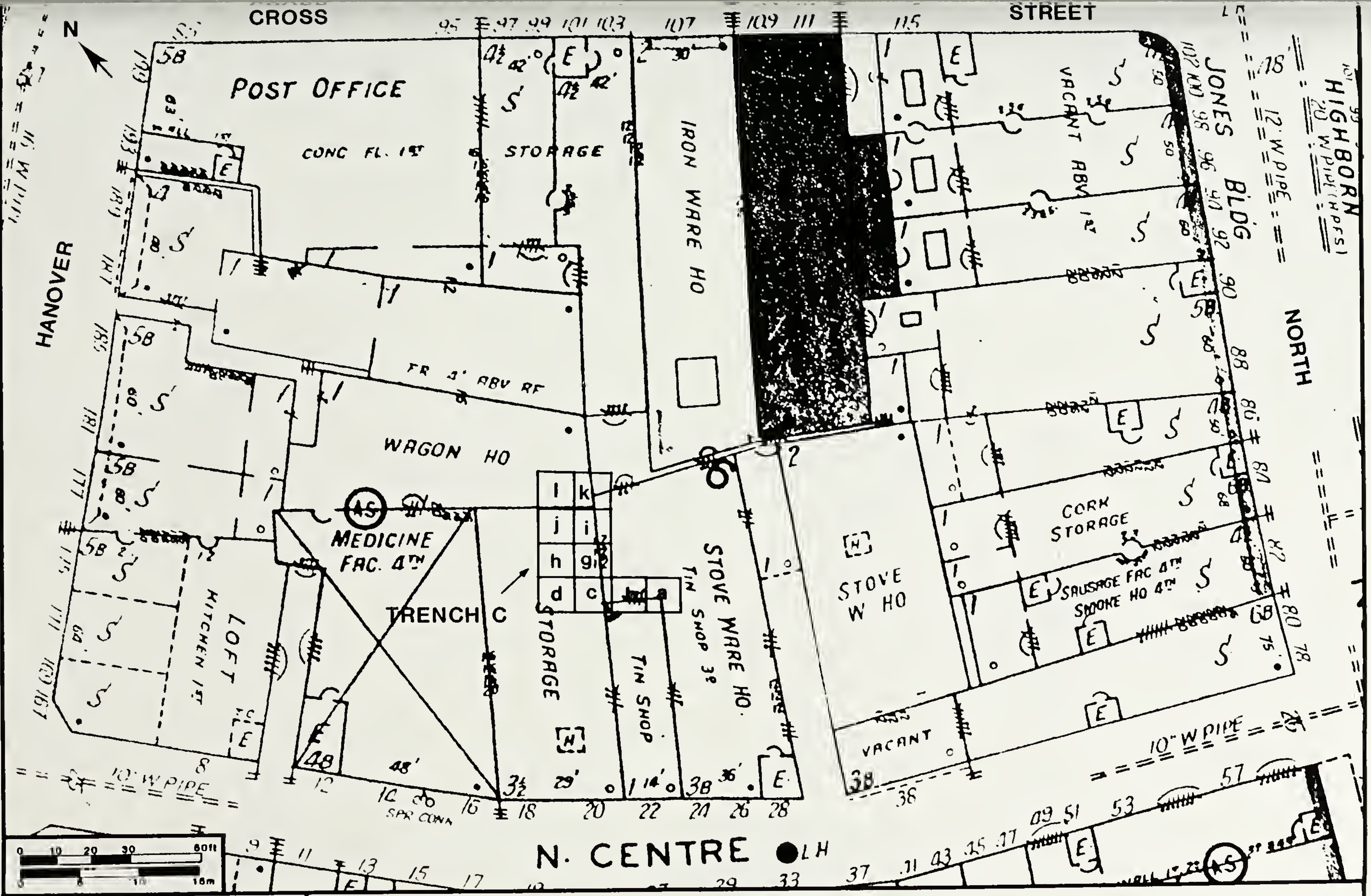

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Figure 4.28 NE03 Trench C on Sanborn 1929 (Pl. 18)

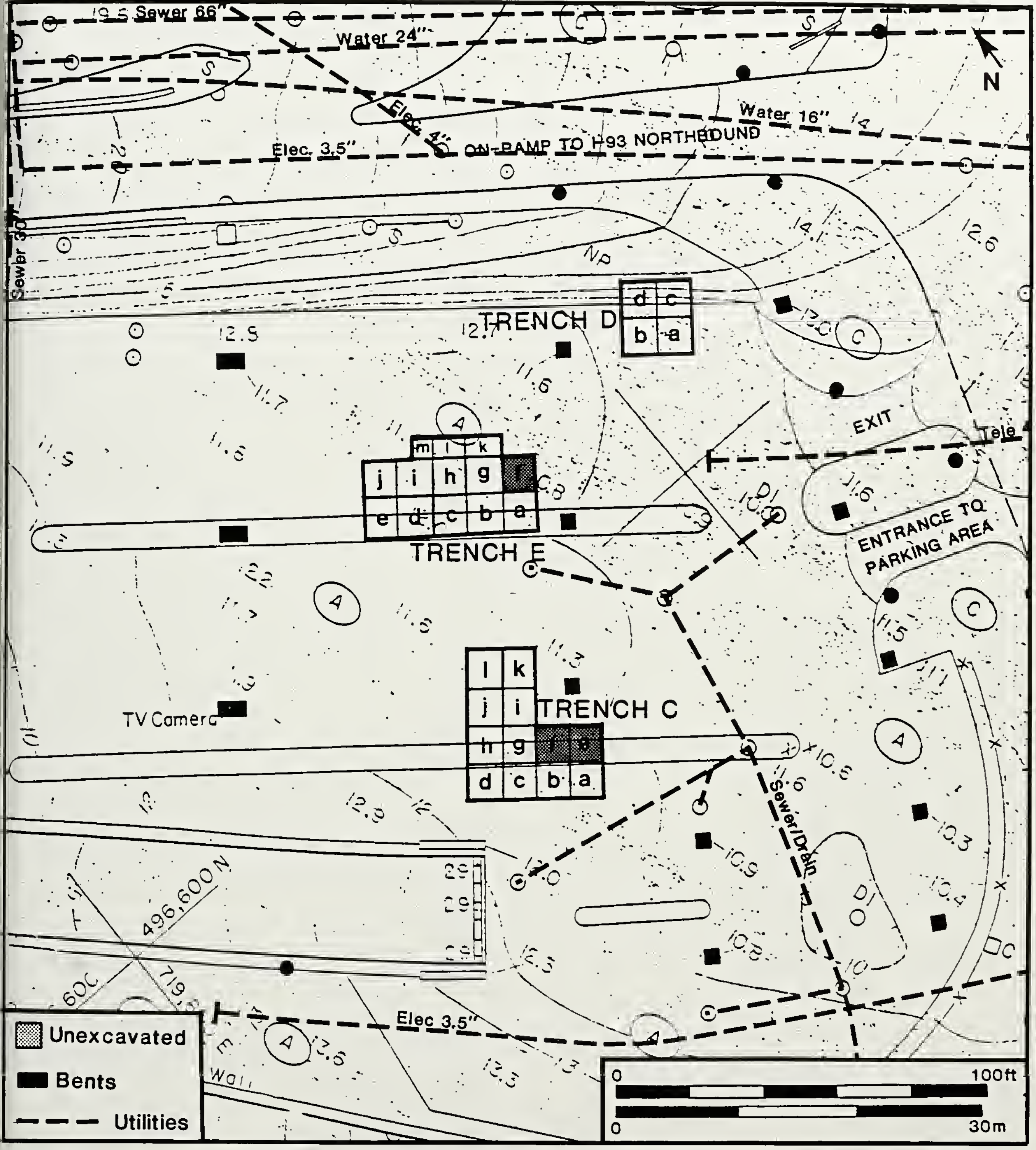

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Figure 4.29 NE03 Trench C, D, and E. Modern Plan

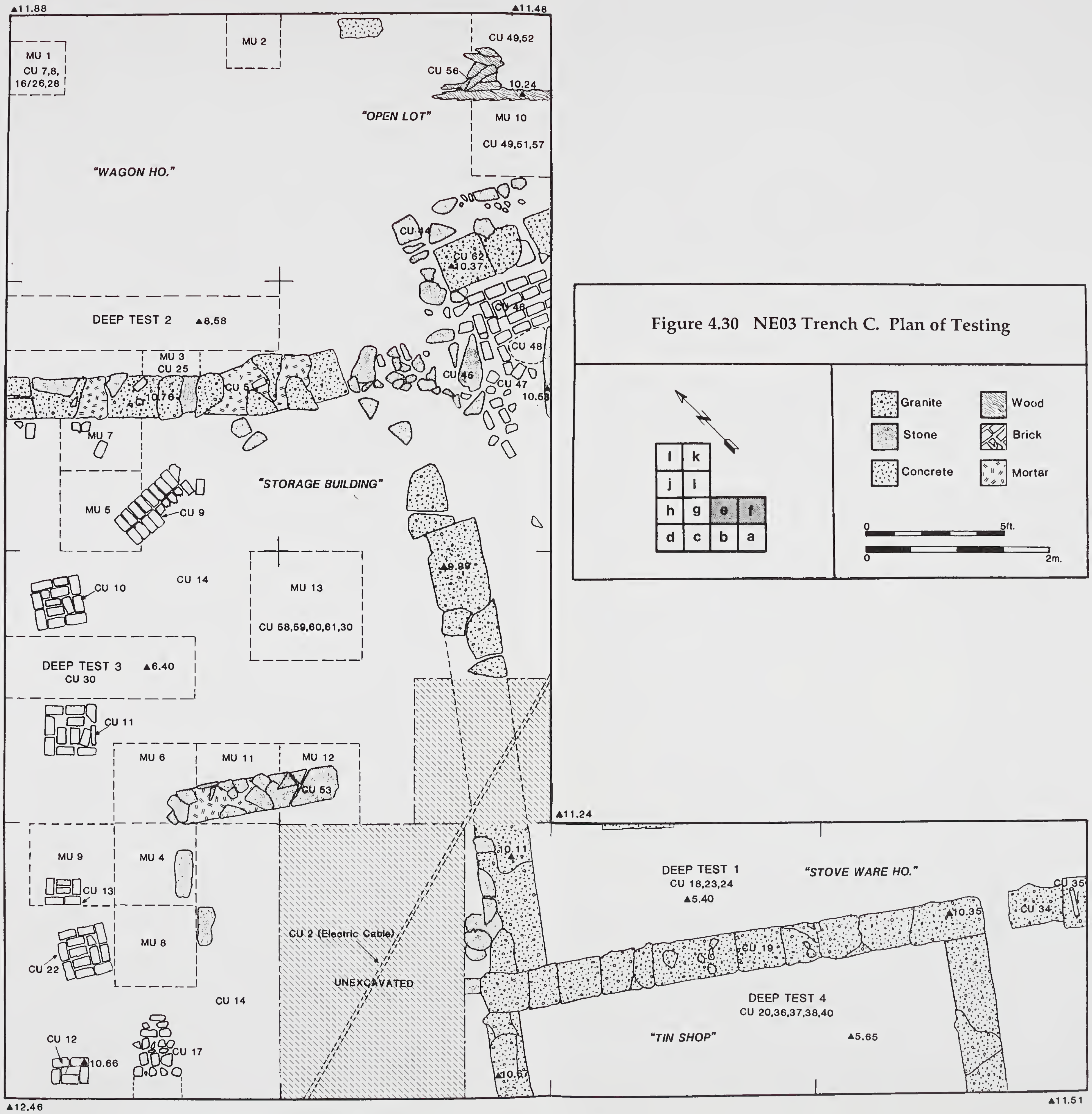
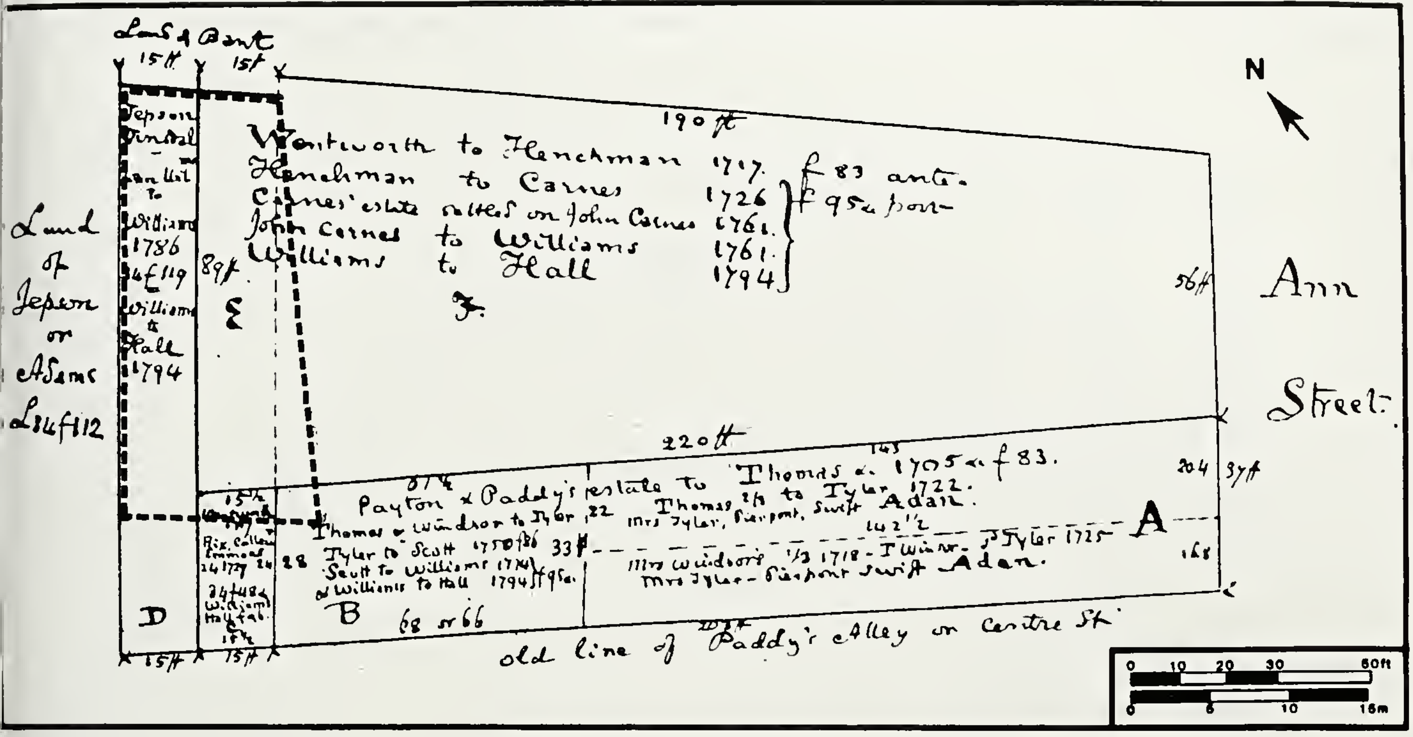
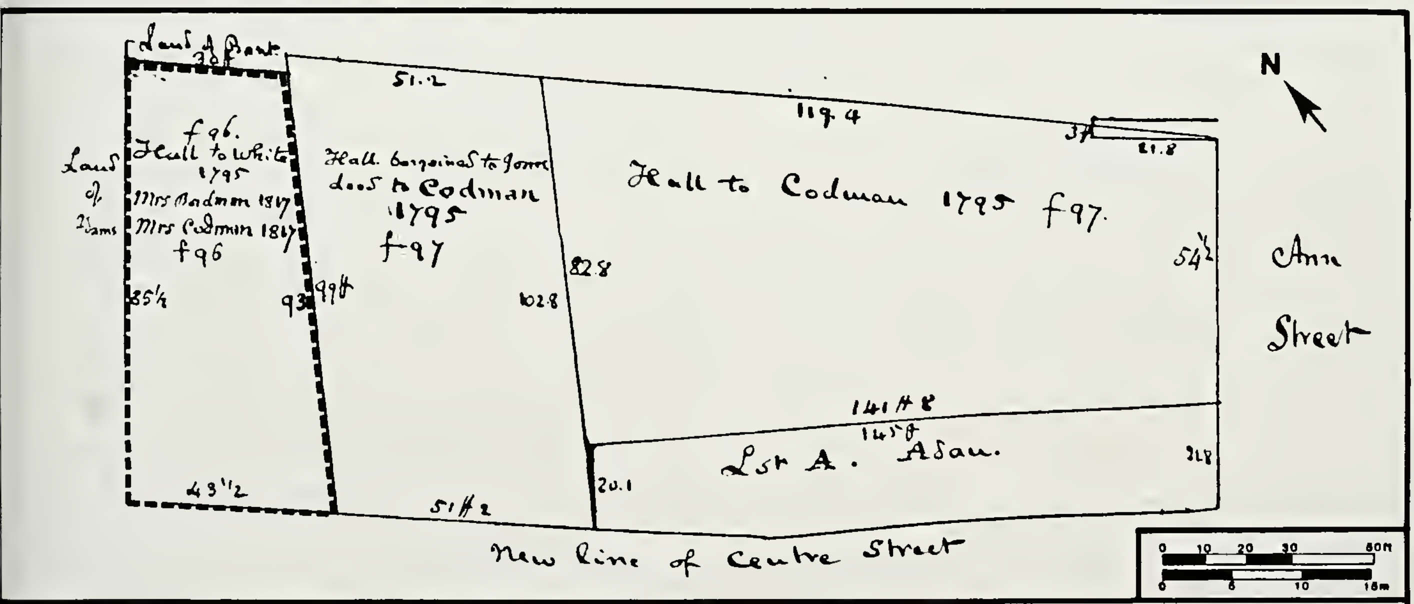


Figure 4.30 NE03 Trench C. Plan of Testing

PROPERTY OF
THE BRA LIBRARY


Land of Bent
15ft 15ft
N
190ft
Wentworth to Henchman 1717
Henchman to Carnes 1726
Carnes' estate settled on John Carnes 1761
John Carnes to Williams 1761
Williams to Hall 1794
f 83 ante
f 95 a post
Jepson Tindal
Williams 1786
Williams to Hall 1794
Land of Jepson or Adams L84 f112
89ft
E
F
56ft
Ann Street
220ft
Payton & Paddy's estate to Thomas & 1705 a f 83.
Thomas to Tyler 1722.
Mrs Tyler, Pierpont, Swift Adan.
Thomas & Windsor to Tyler
Tyler to Scott 1750
Scott to Williams 1761
Williams to Hall 1794 f 95a
Mrs Windsor's 1/3 1718 - T Windsor to Tyler 1725
Mrs Tyler - Pierpont Swift Adan.
A
B
D
68 or 66
33ft
28
old line of Paddy's Alley or Centre St
15ft 15ft
0 10 20 30 50ft
0 5 10 15m



KEY

------ "STORAGE" LOT

Figure 4.31 NE03 Trench C. "Storage" Lot on Plans from Bowditch 48: 92

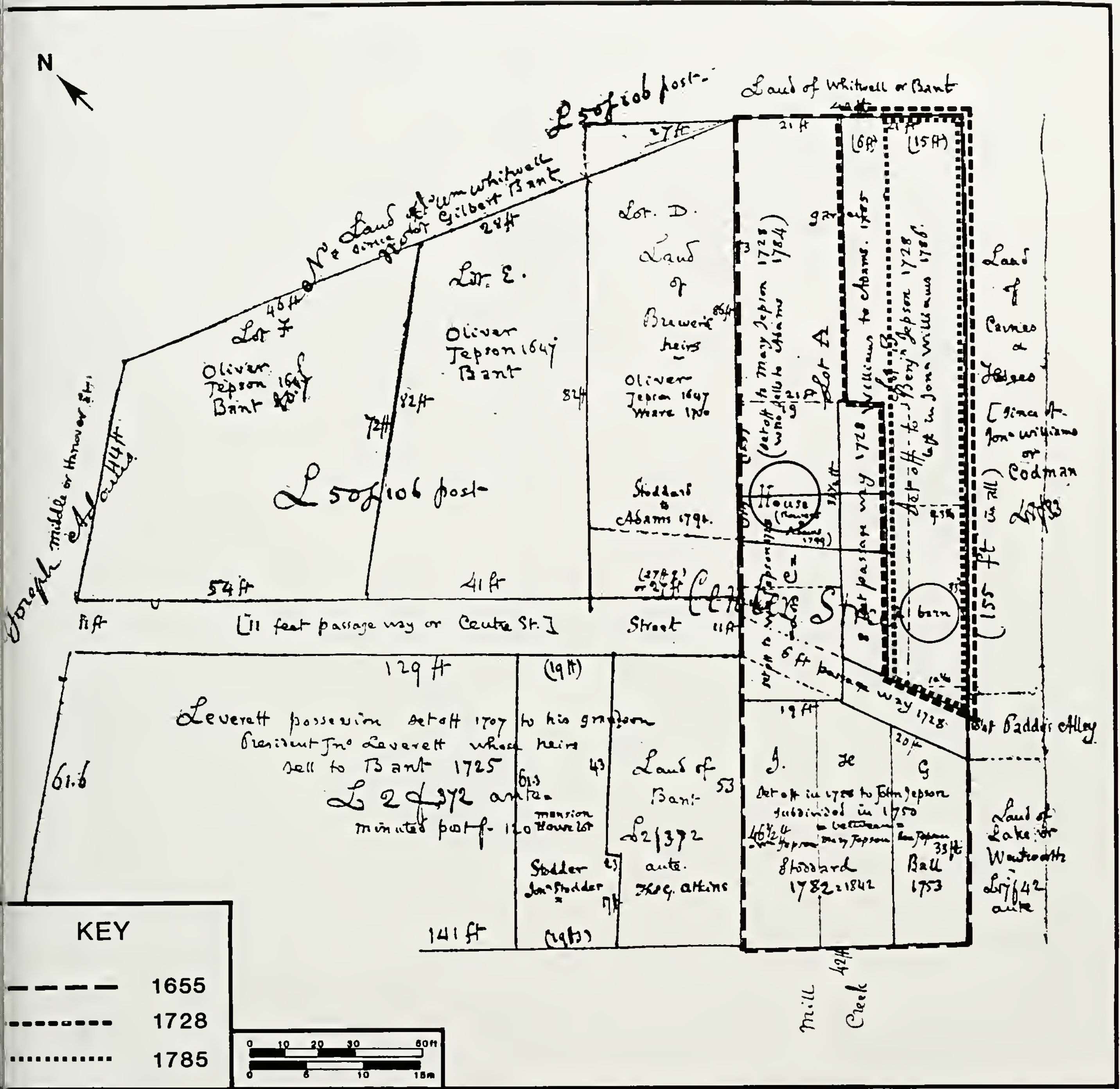


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Figure 4.32 NE03 Trench C. West Part of "Storage" lot on Plan from Bowditch 34: 112

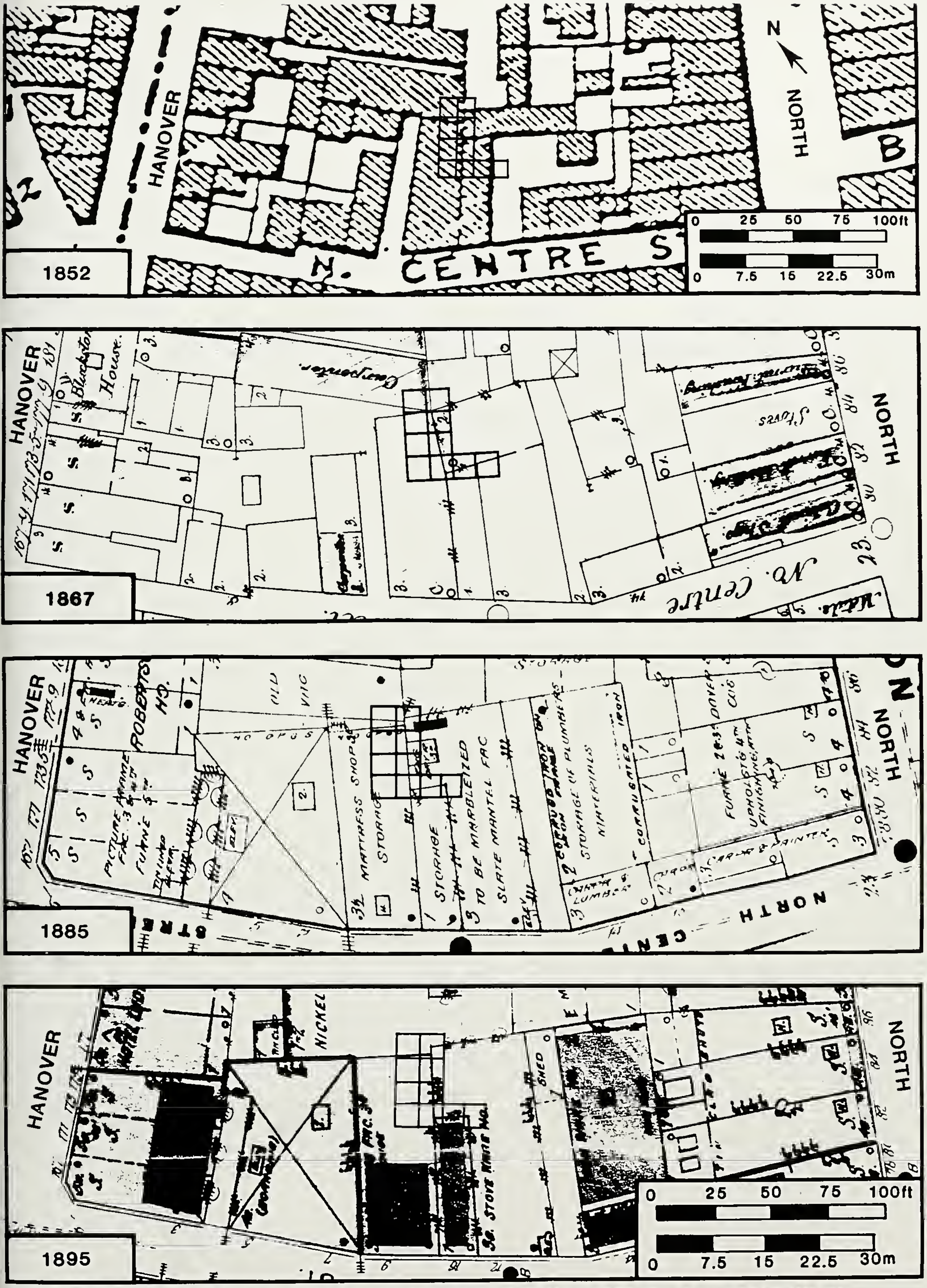

Figure 4.33 NE03 Trench C on Slatter and Callan 1852, Sanborn 1867 (Pl. 7), Sanborn 1885 (Pl. 15), Sanborn 1895 (Pl. 31)

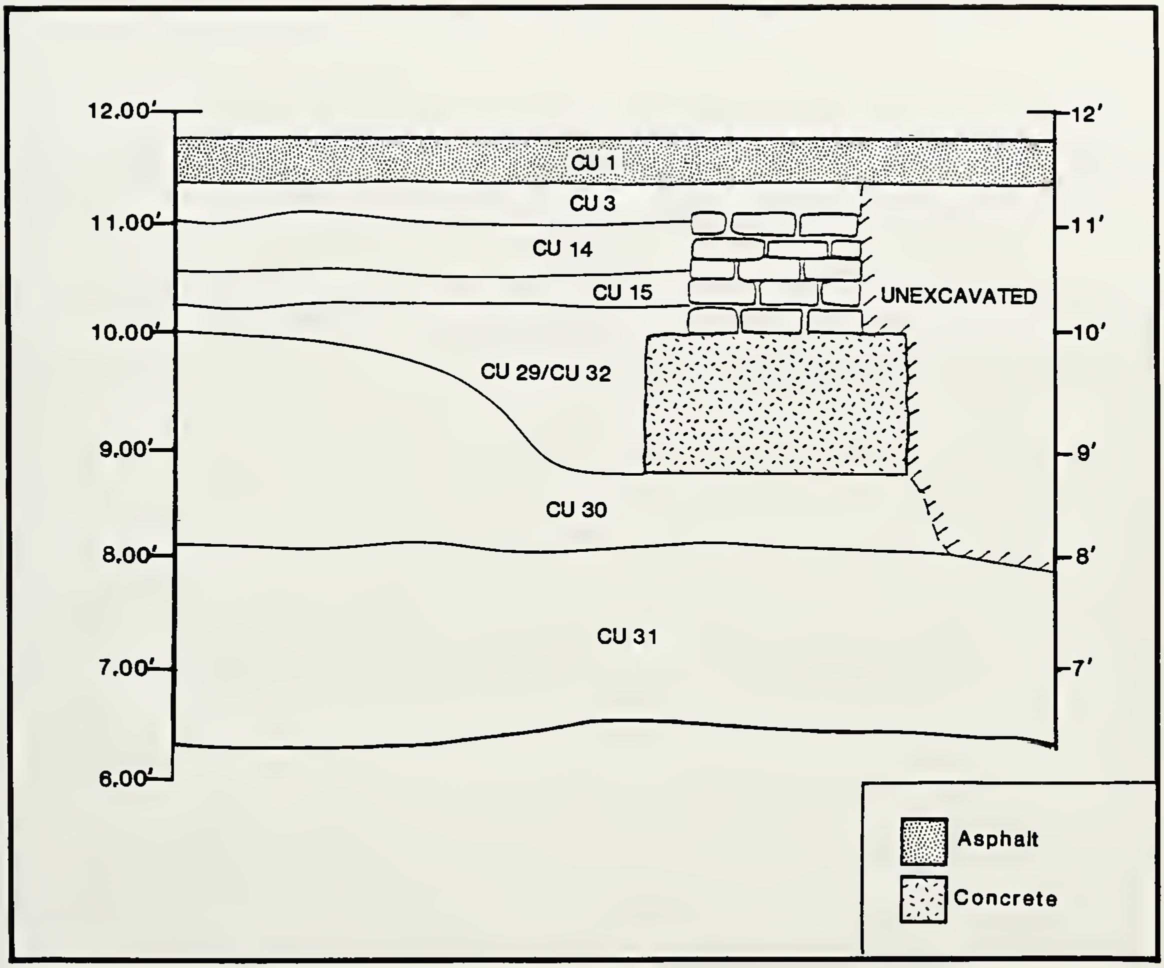

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Figure 4.34 NE03 Trench C. Deep Test 3.
South Wall Profile (Grid h)

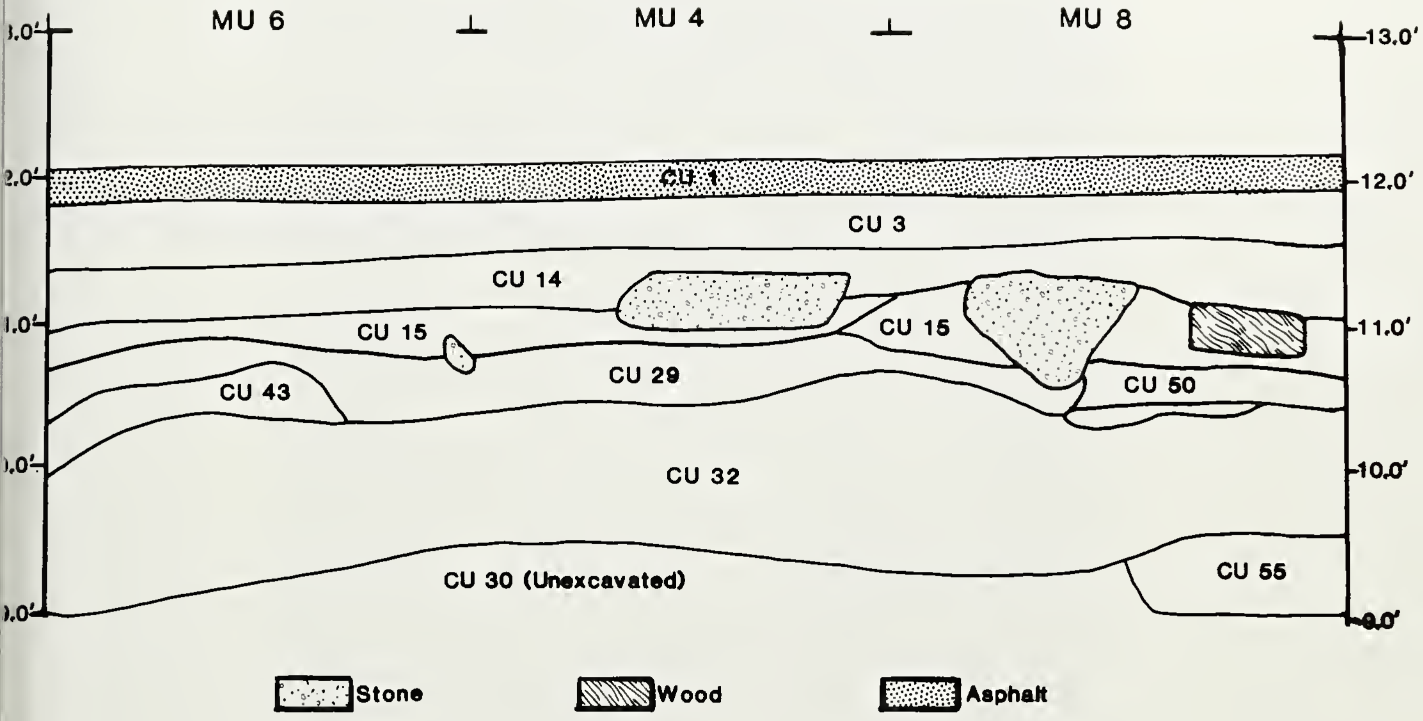

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Figure 4.35 NE03 Trench C. Grids h and j. East Wall Profile. MU 6, 4, and 8

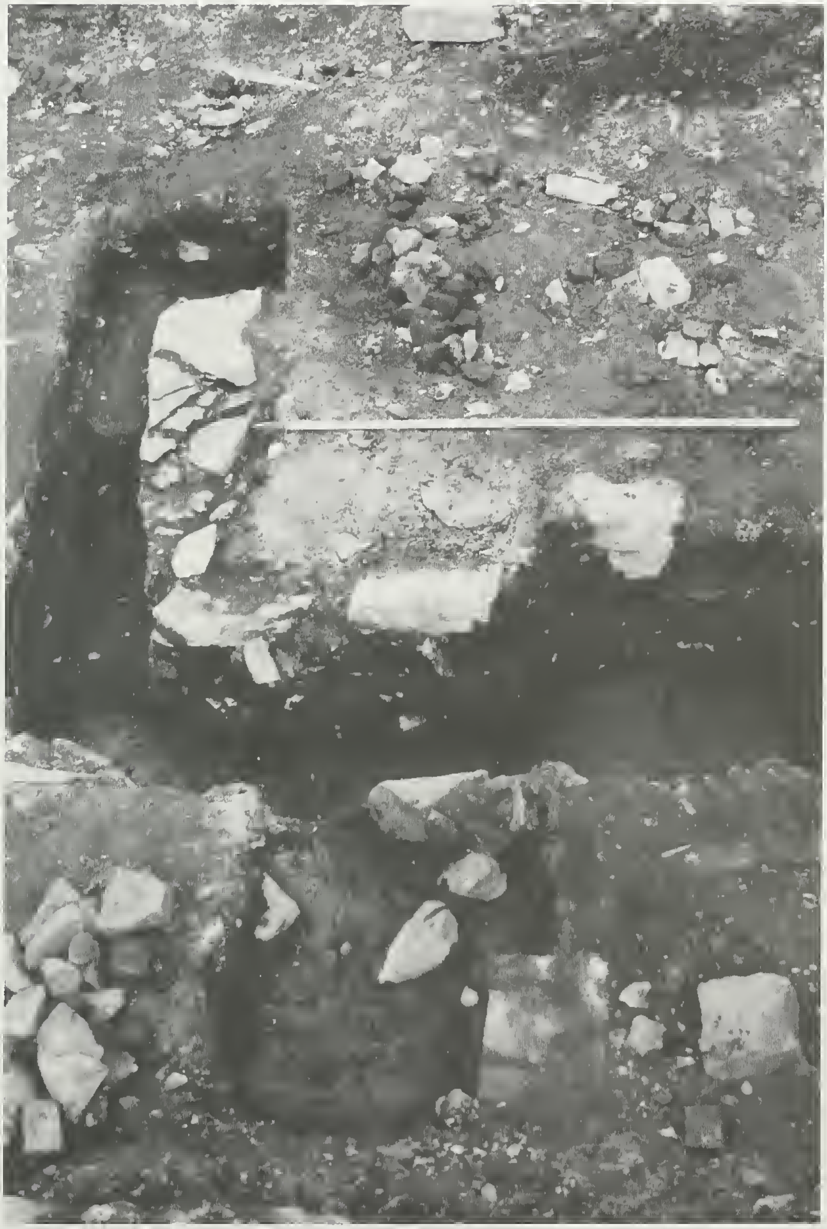
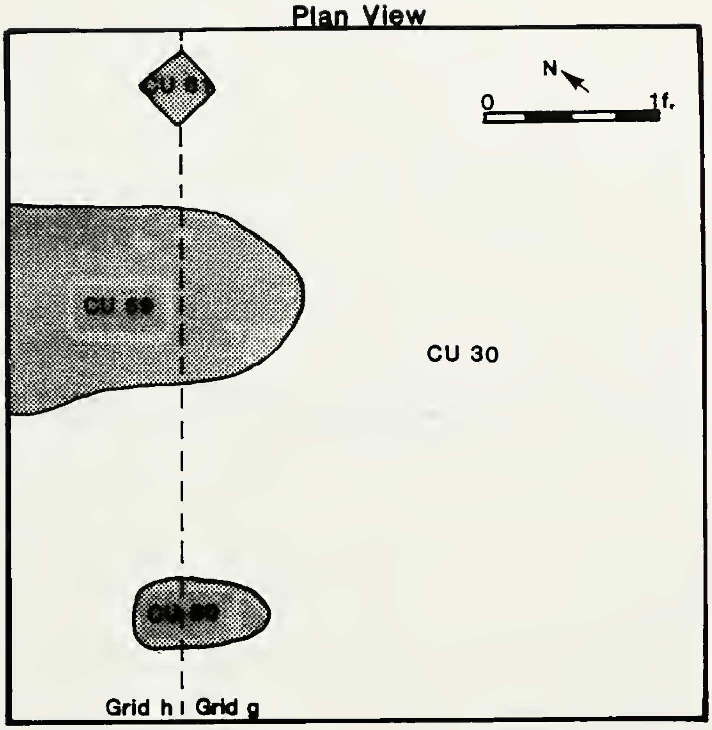
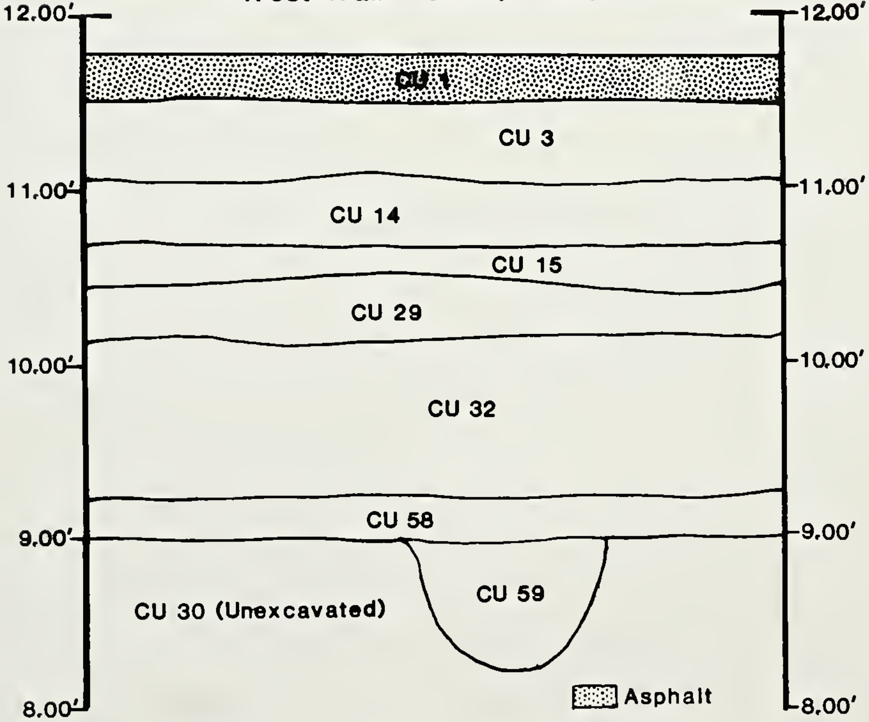


Figure 4.36 NE03 Trench C. Stone Foundation (CU53), Looking East. MU 6, 11, 12

Plan View



West Wall Profile (Grid h)



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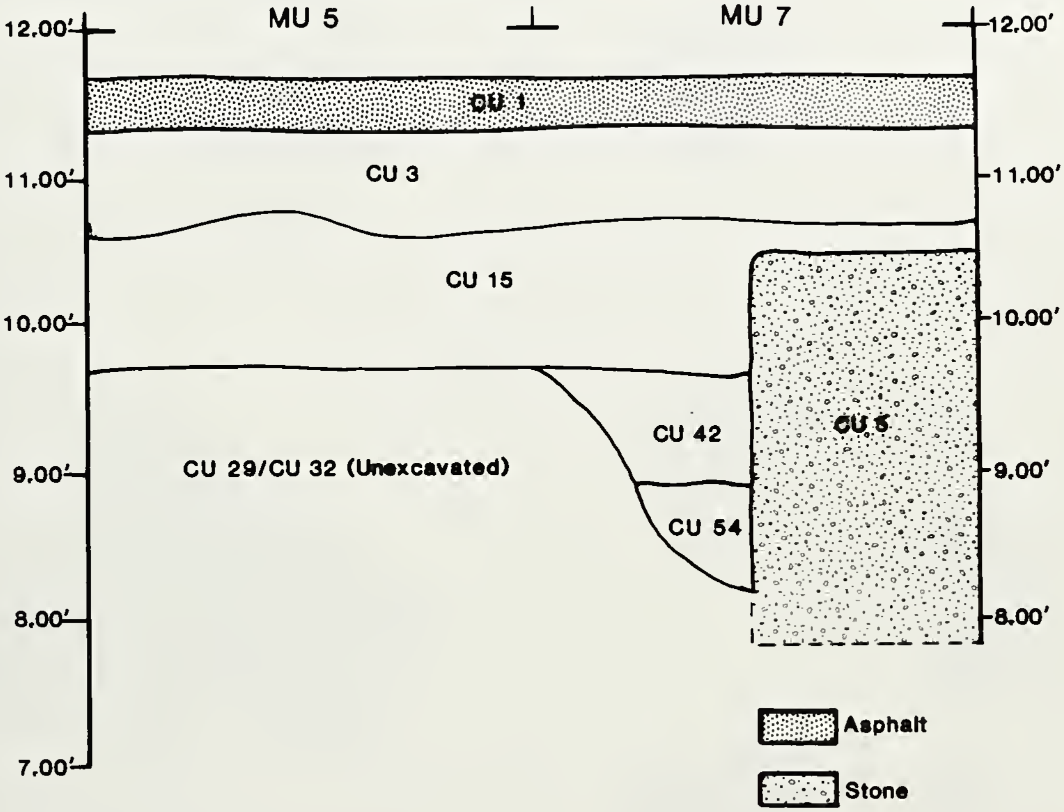

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Figure 4.38 NE03 Trench C. MU 5, 7 West Wall Profile (Grid j)

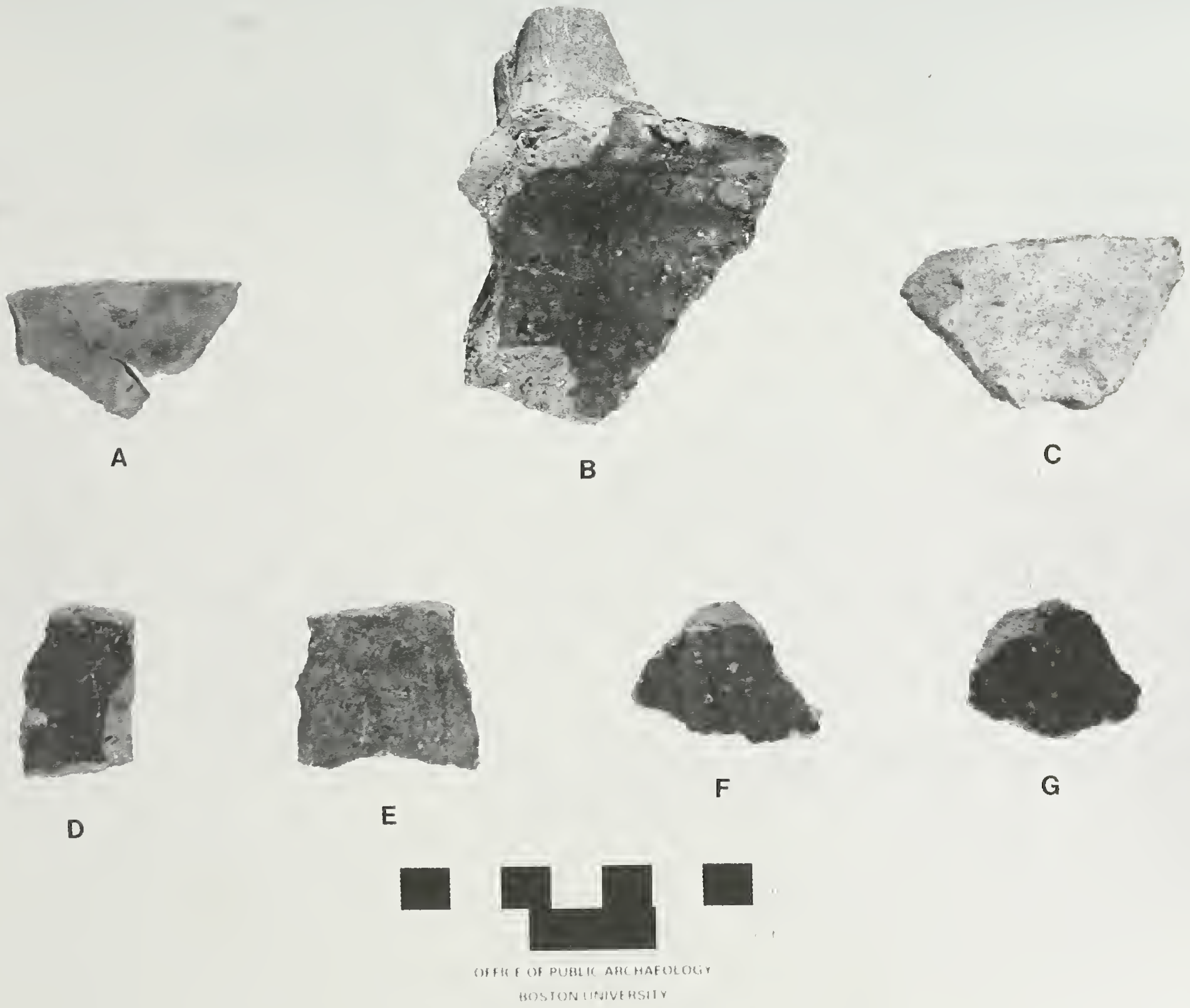

Figure 4.39 NE03 Trench C. CU 32 North Devon Gravel-Tempered Earthenwares

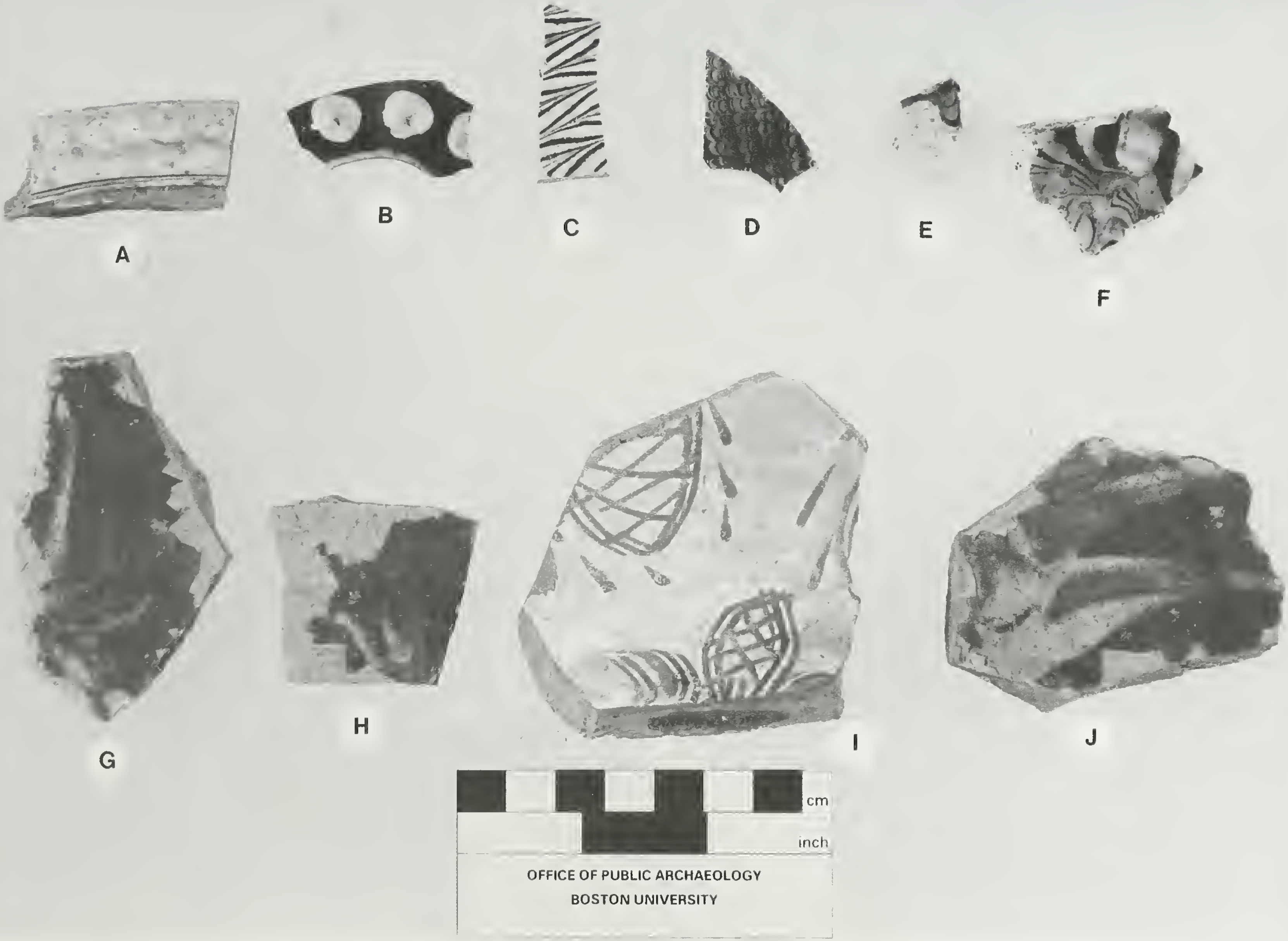

Figure 4.40 NE03 Trench C. Sgrafitto and Slipwares from CU 32. A, I, Sgraffito; B, Dotted Slipware; C-F, Combed Slipware; G, H, J, Trailed Slipware

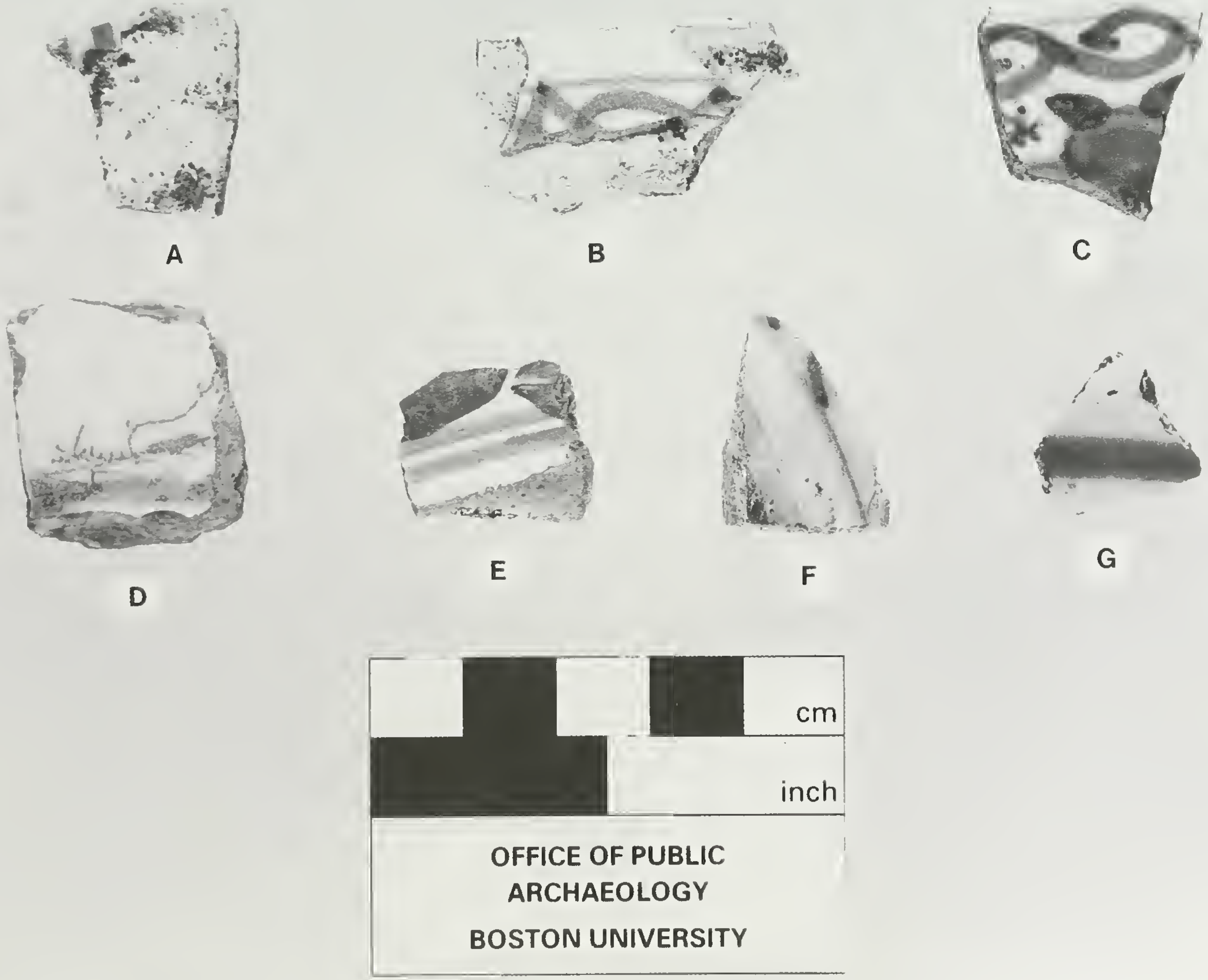

Figure 4.41 NE03 Trench C. Tin-glazed Earthenwares from CU 29 (A-C) and CU 15 (D-G)

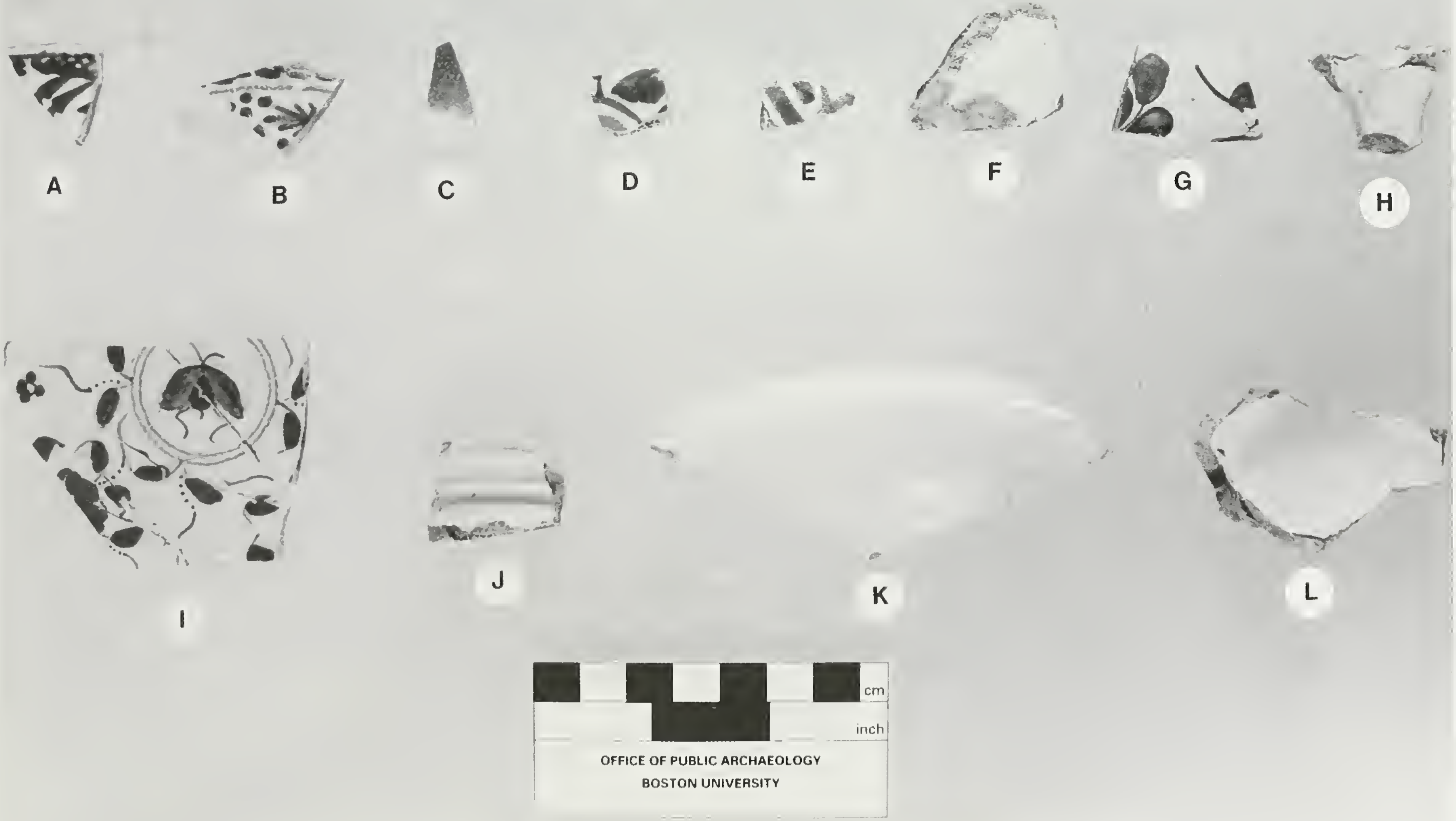

Figure 4.42 NE03 Trench C. Tin-glazed Earthenwares from CU 32

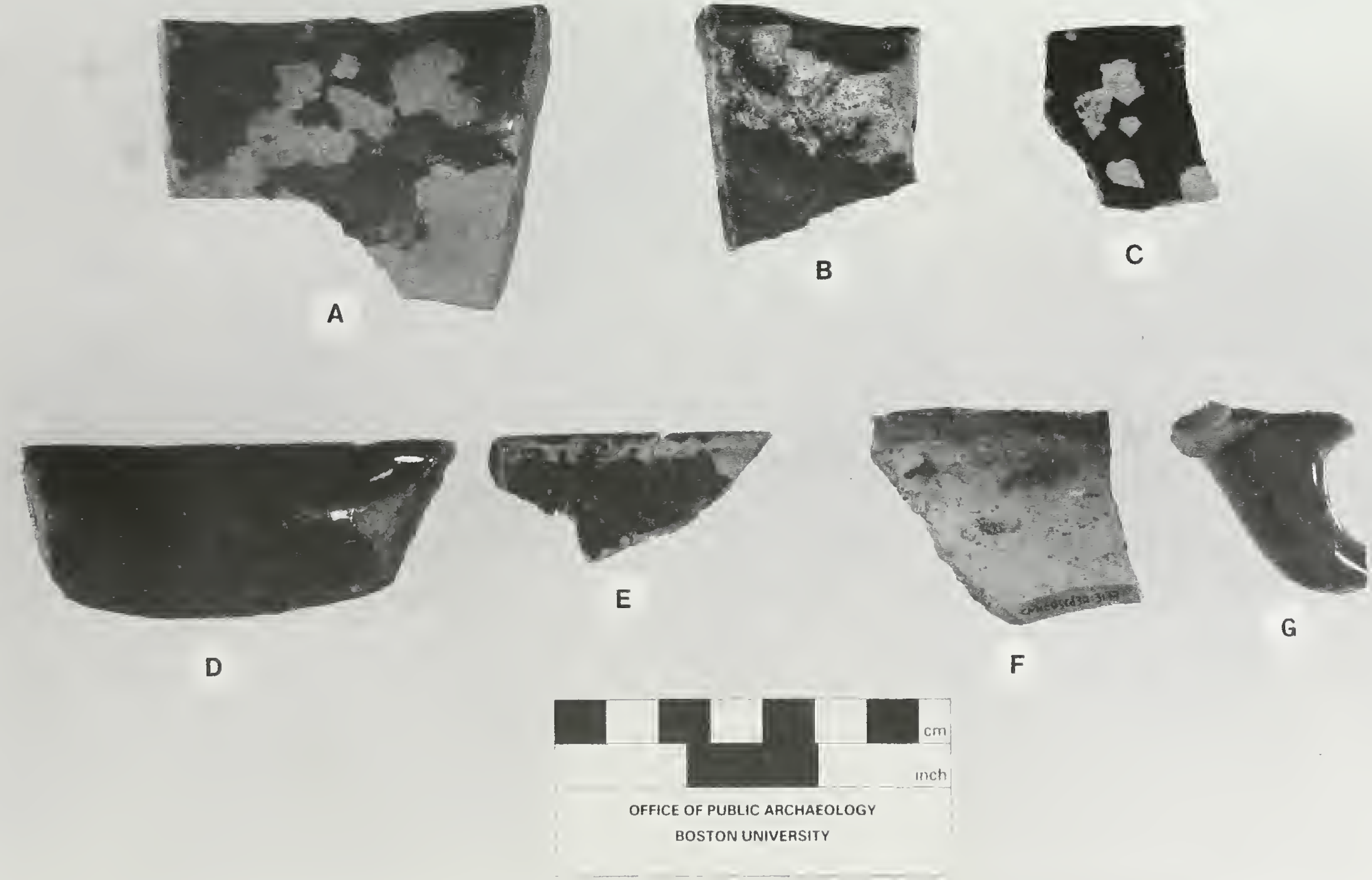

Figure 4.43 NE03 Trench C. Redwares from CU 15 (A-C), CU 29 (D), and CU CU 32 (E-G)

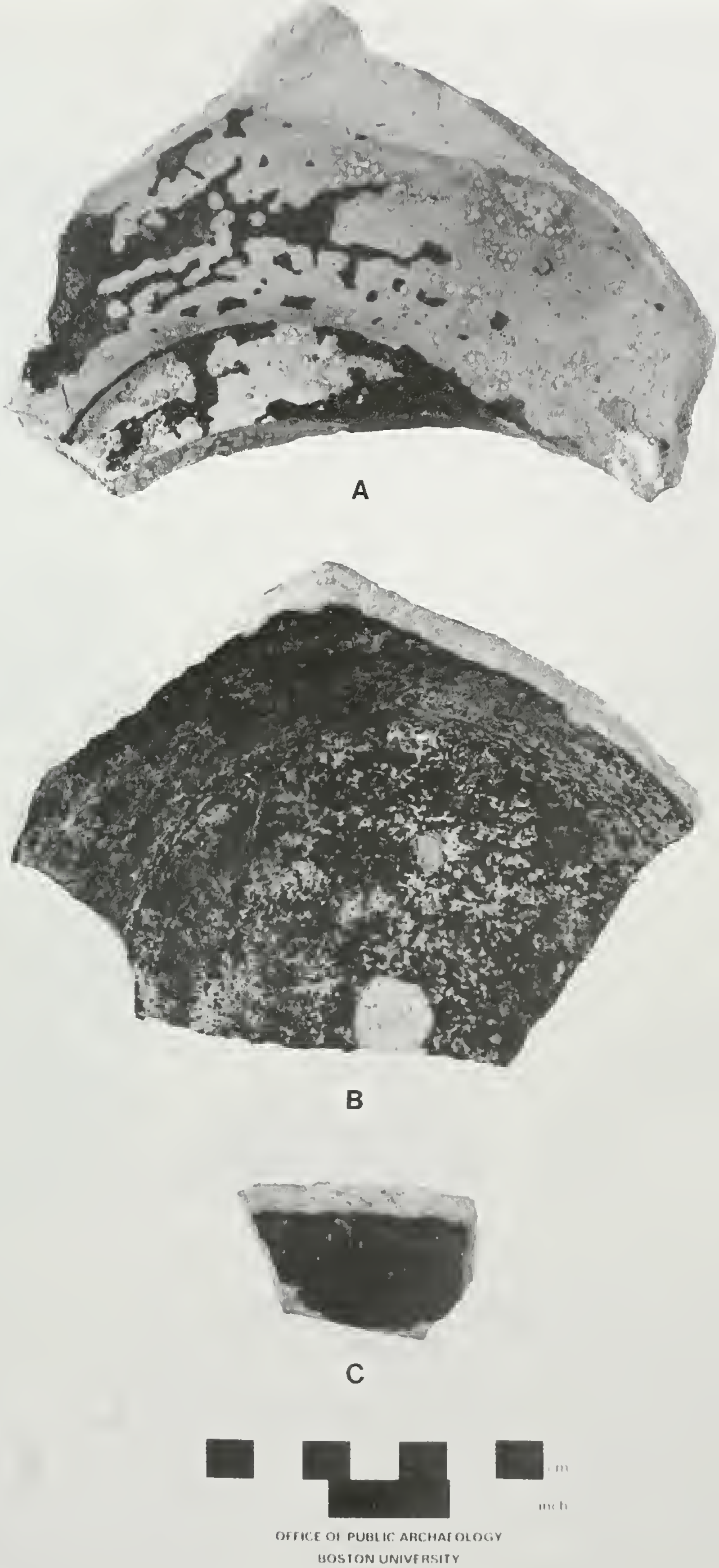

Figure 4.44 NE03 Trench C. Redwares from CU 32

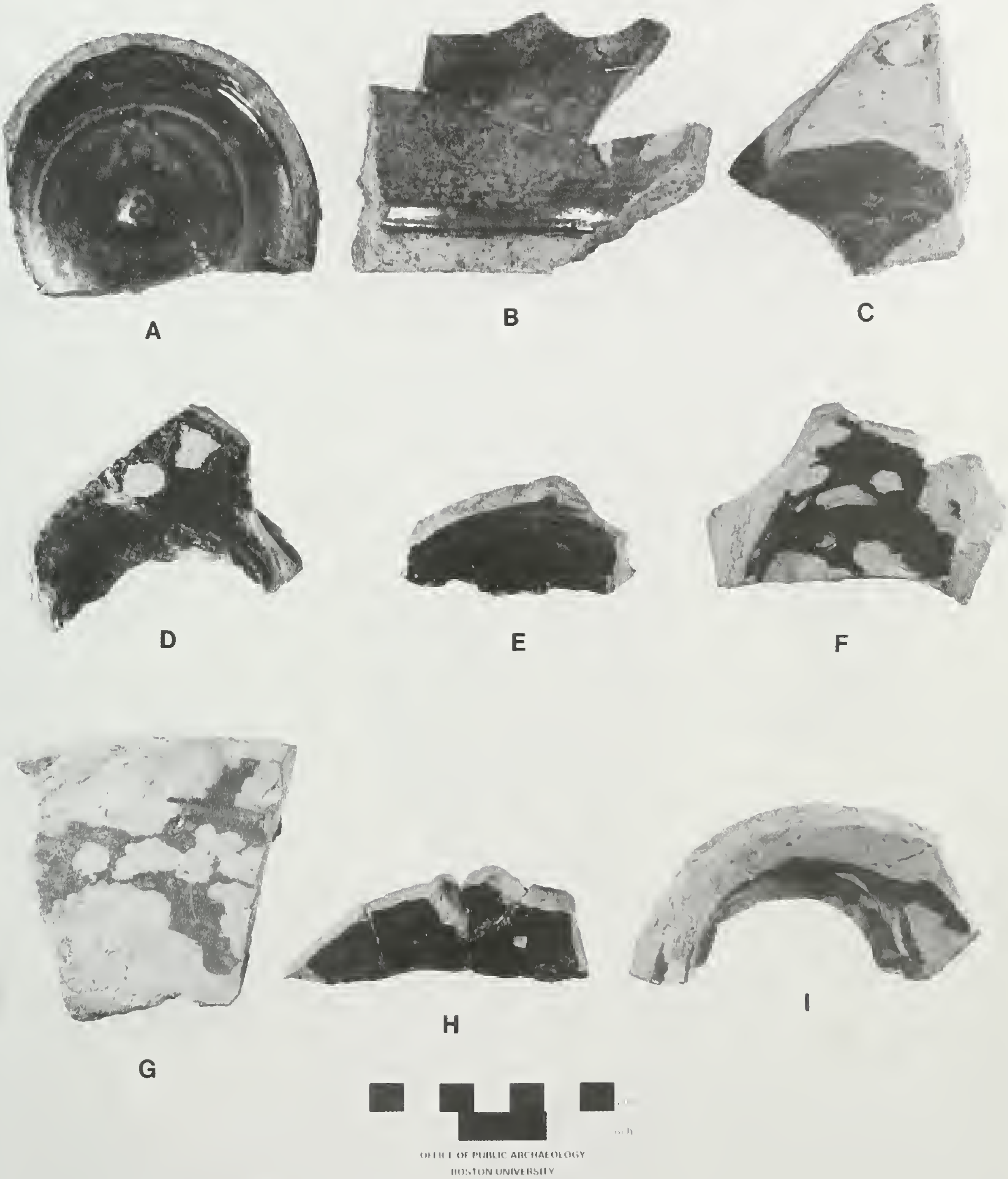

Figure 4.45 NE03 Trench C. Redwares from CU 15 (C-F, H) and CU 32 (A, B, G, I)

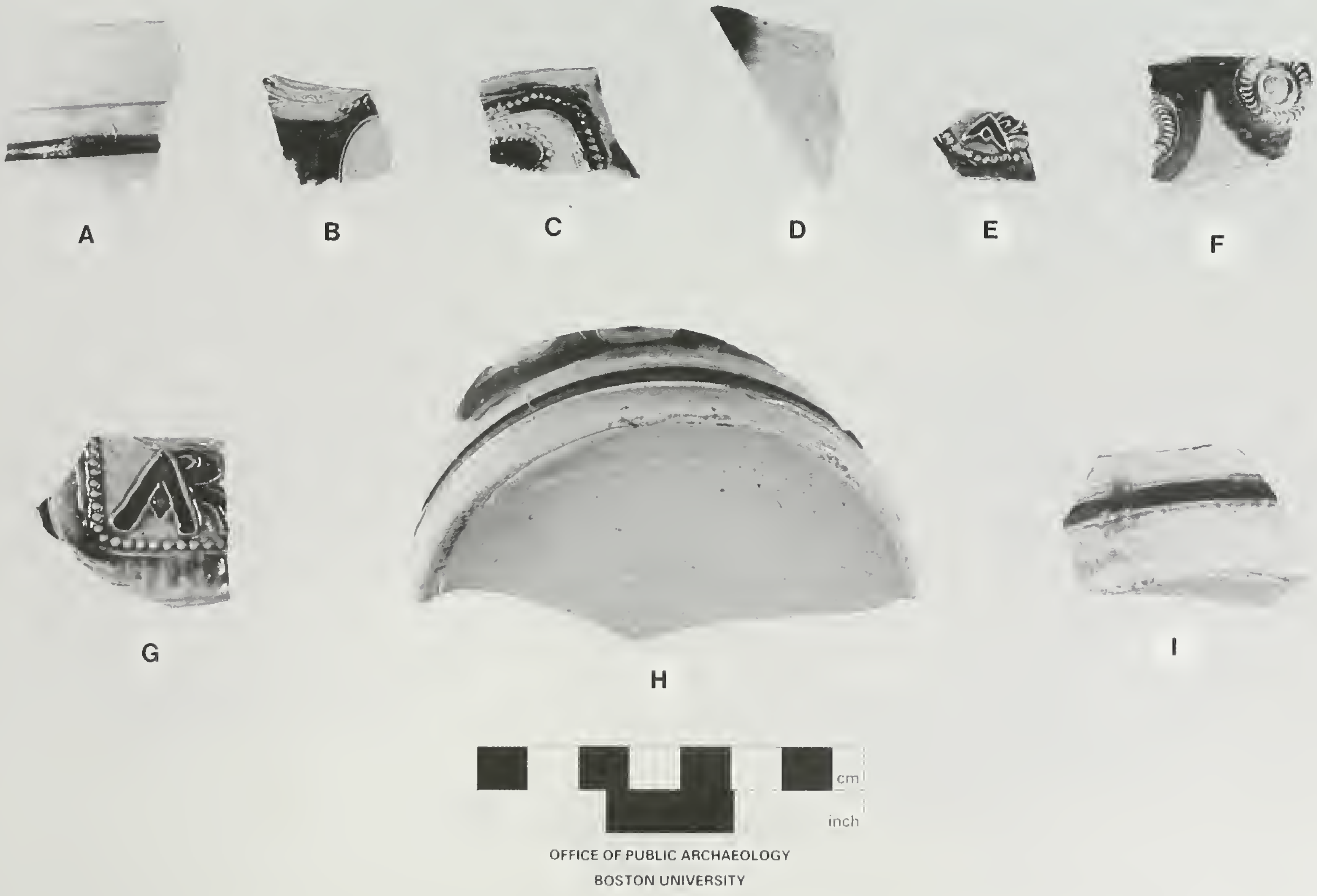

Figure 4.46 NE03 Trench C. Westerwald Stoneware from CU 32. E, G with "AR" cipher for "Anna Regina"

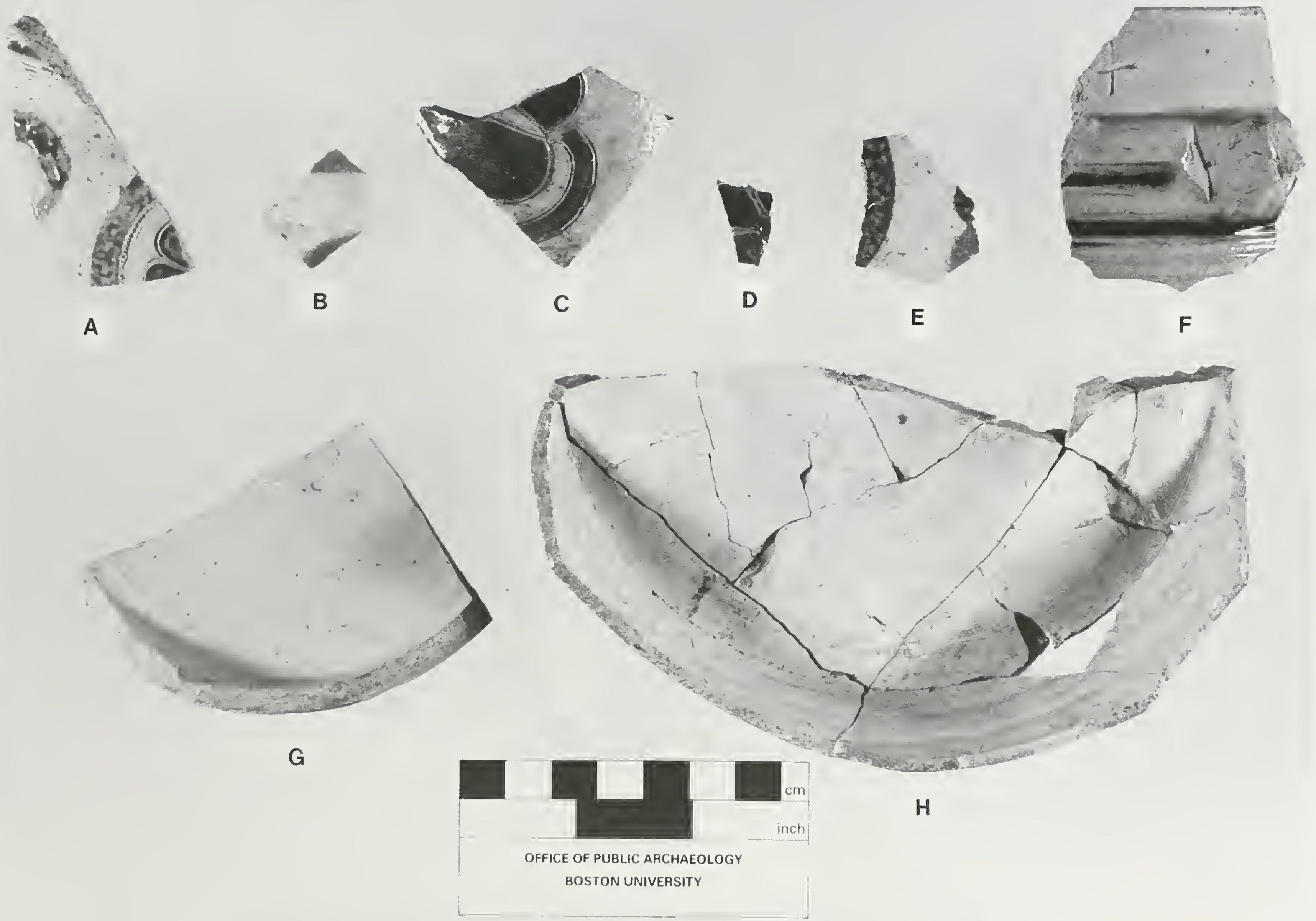

Figure 4.47 NE03 Trench C. Westerwald Stoneware from CU 15

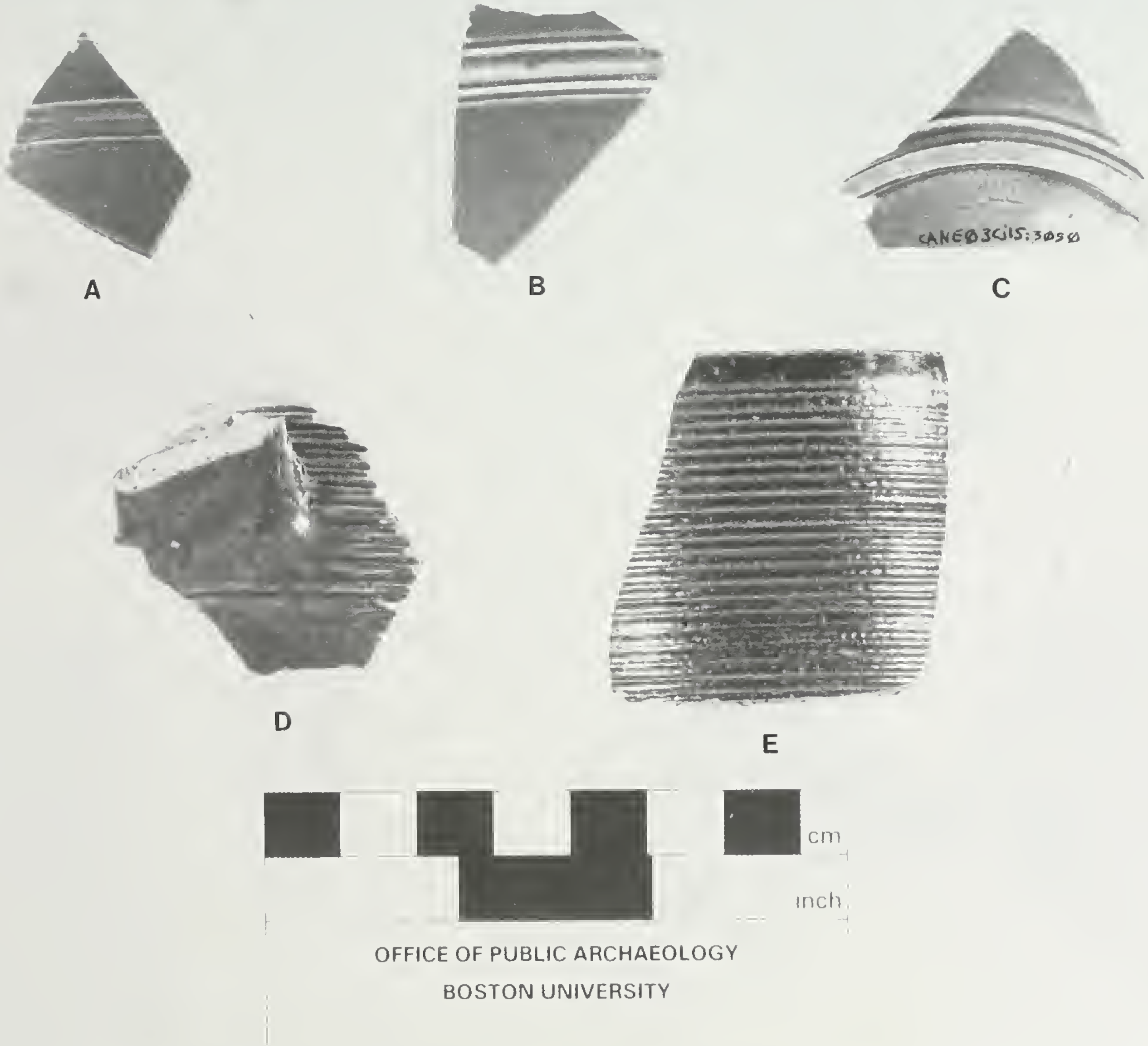

Figure 4.48 NE03 Trench C. Nottingham Stoneware From CU 15 (A-C) and CU 32 (D, E)

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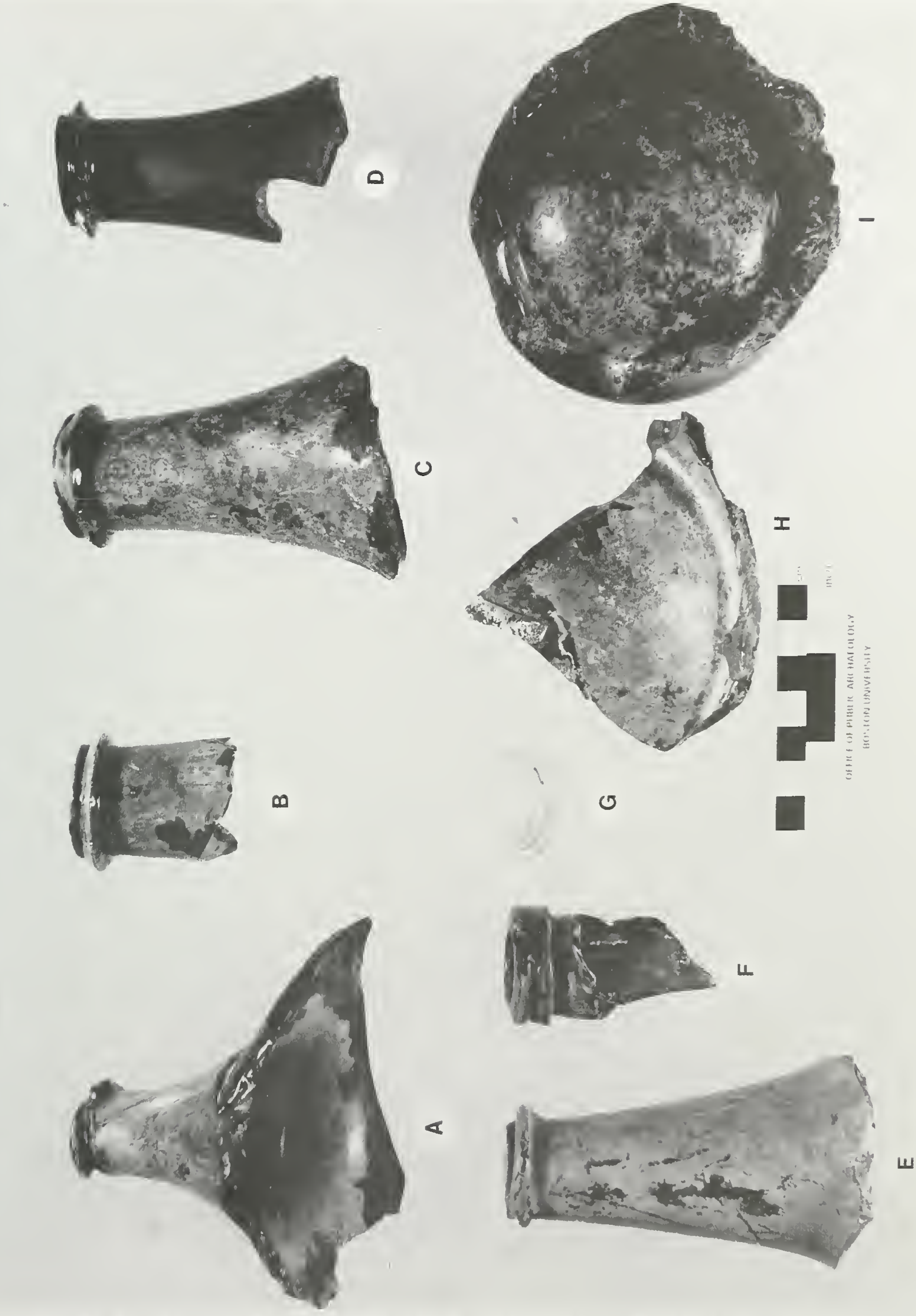

Figure 4.49 NE03 Trench C. Miscellaneous Stonewares, CU 15/29/32. A-D, White Salt-glazed; E, F, Brown Frechen

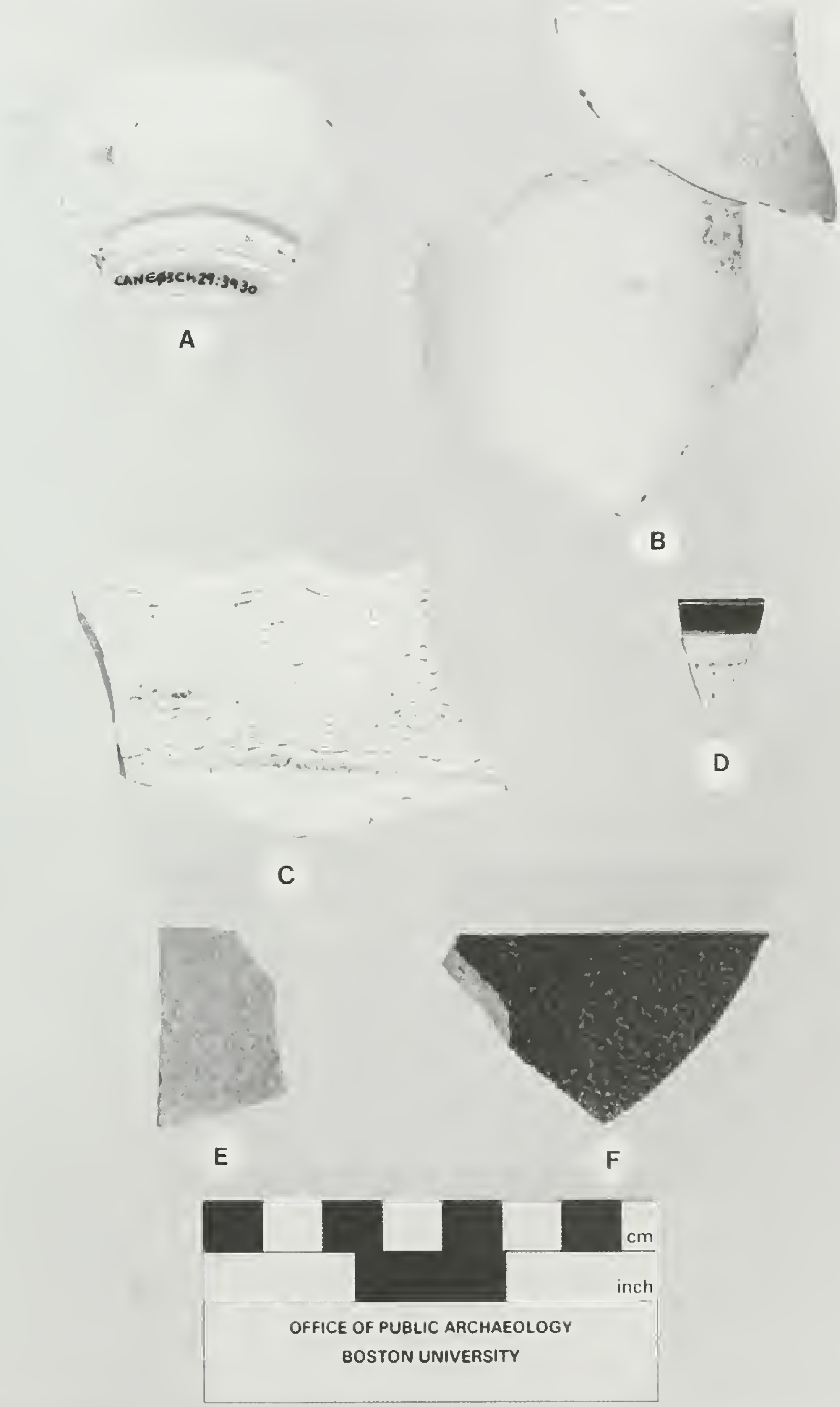

Figure 4.50 NE03 Trench C. Bottle Necks from CU 32 (A-D), CU 15 (E-G). Bottle Base Fragments from CU 15 (H, I)

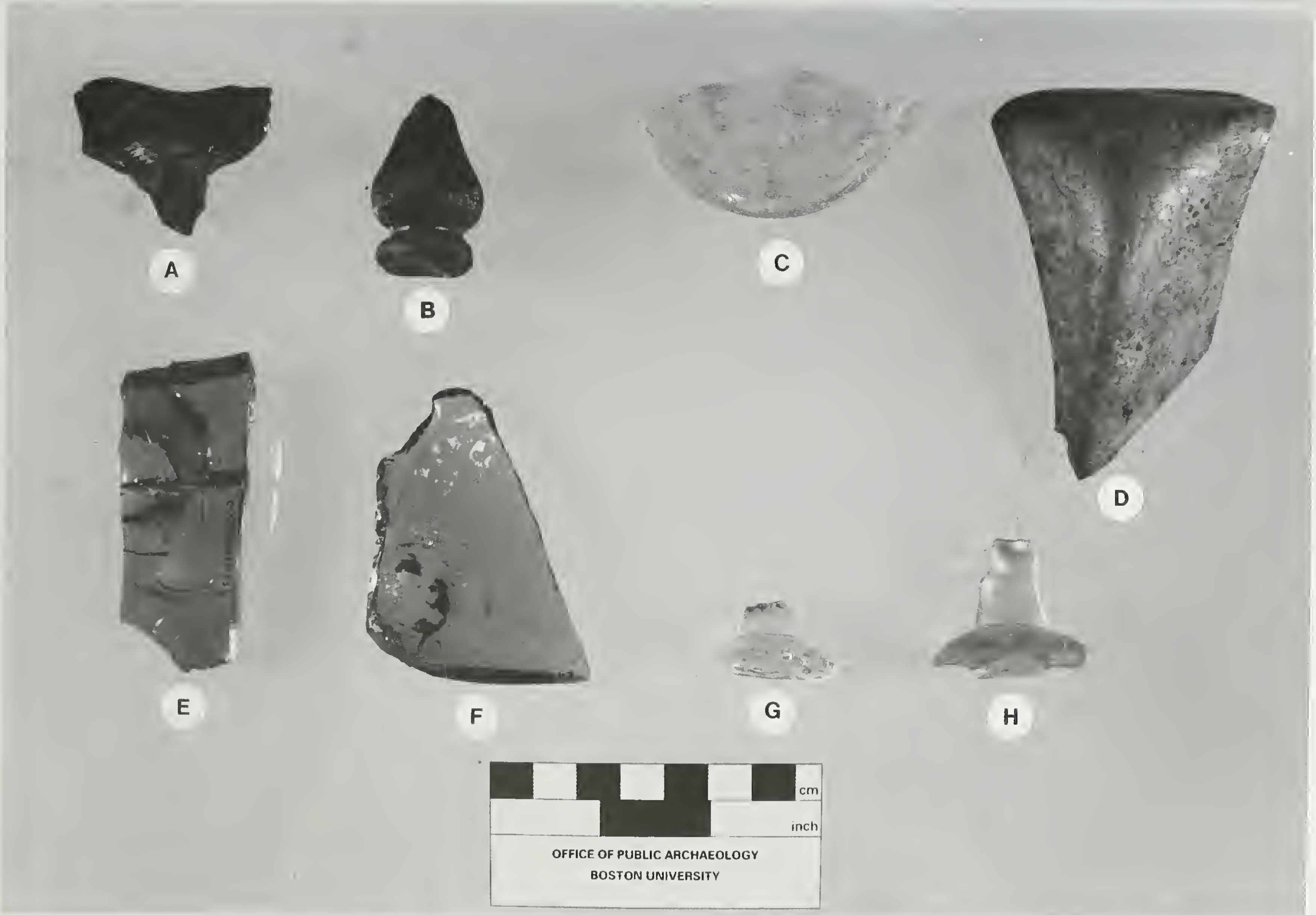

Figure 4.51 NE03 Trench C. Miscellaneous Mold-Blown Glass (CU 15, 29). A, Vessel Collar; B, Finial; C, Vessel Base; D, "Case" Bottle; E-F, Bottle Base Frags; G, H, Stemware

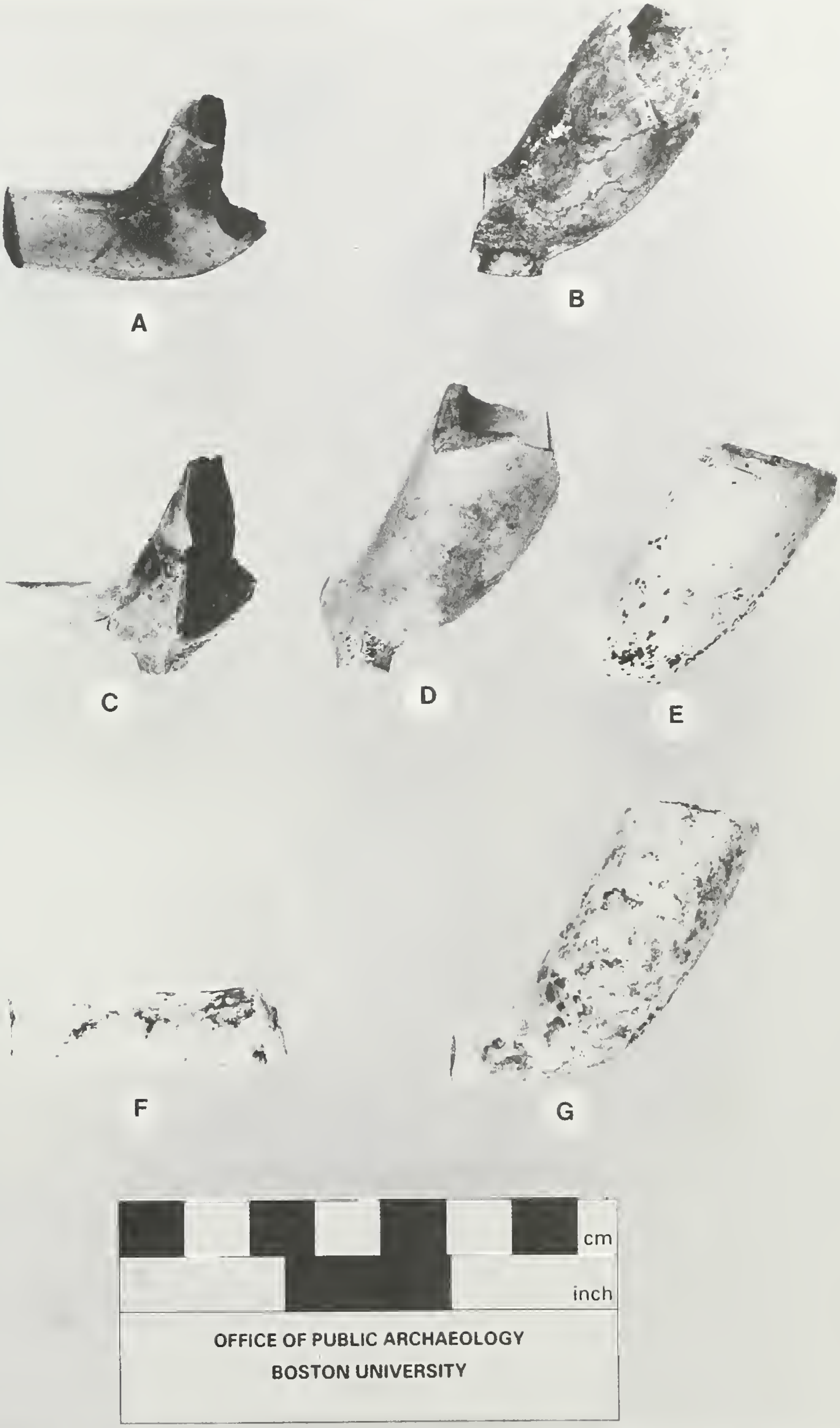

Figure 4.52 NE03 Trench C. Miscellaneous Kaolin Pipes, CU 15/29/32

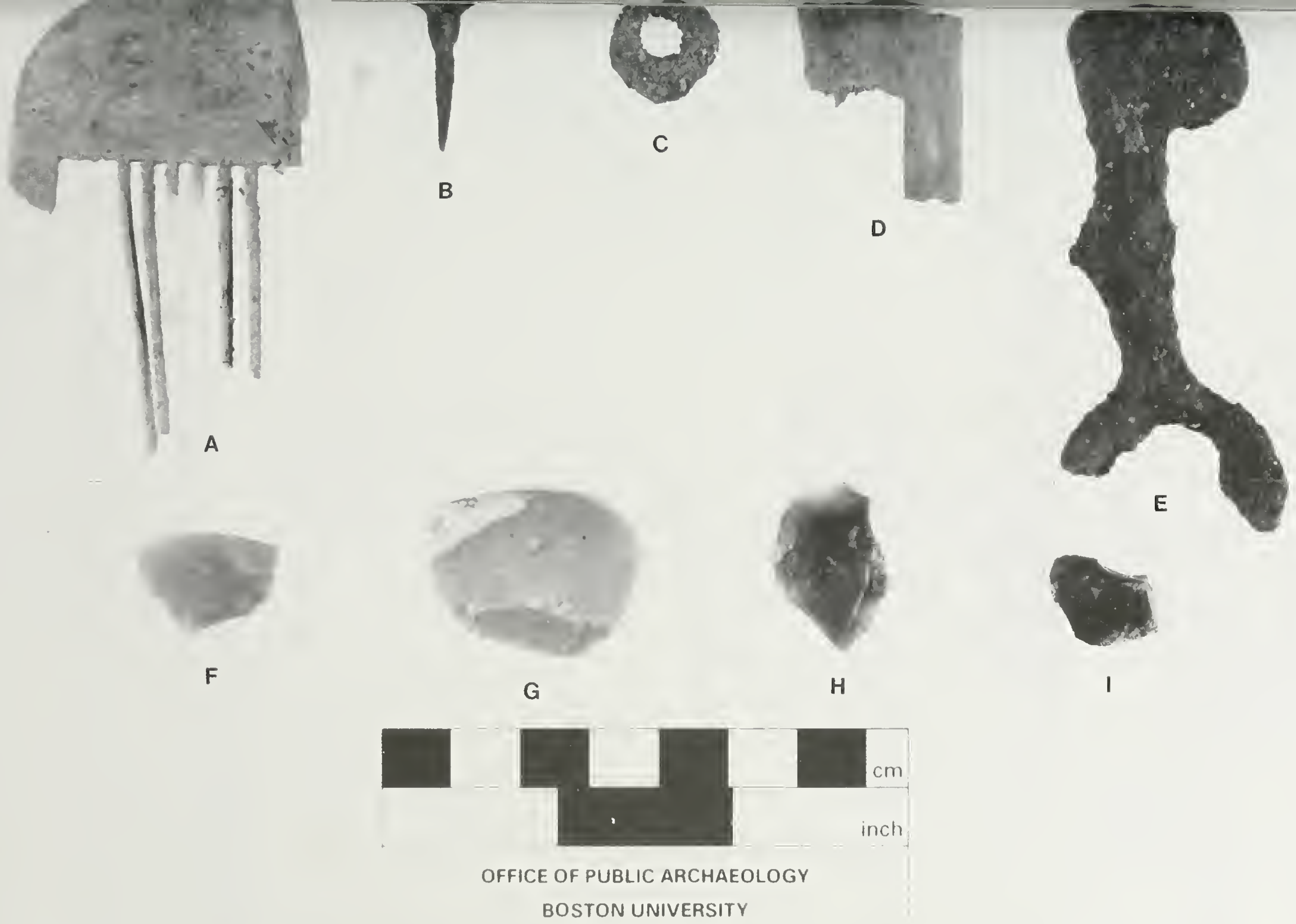

Figure 4.53 NE03 Trench C. Miscellaneous Artifacts. A, D Comb (CU 32); B, Tack (CU 29); C, Shoe Eyelet (CU 15); E, Key (CU 29); F-I, Flint (CU 32)

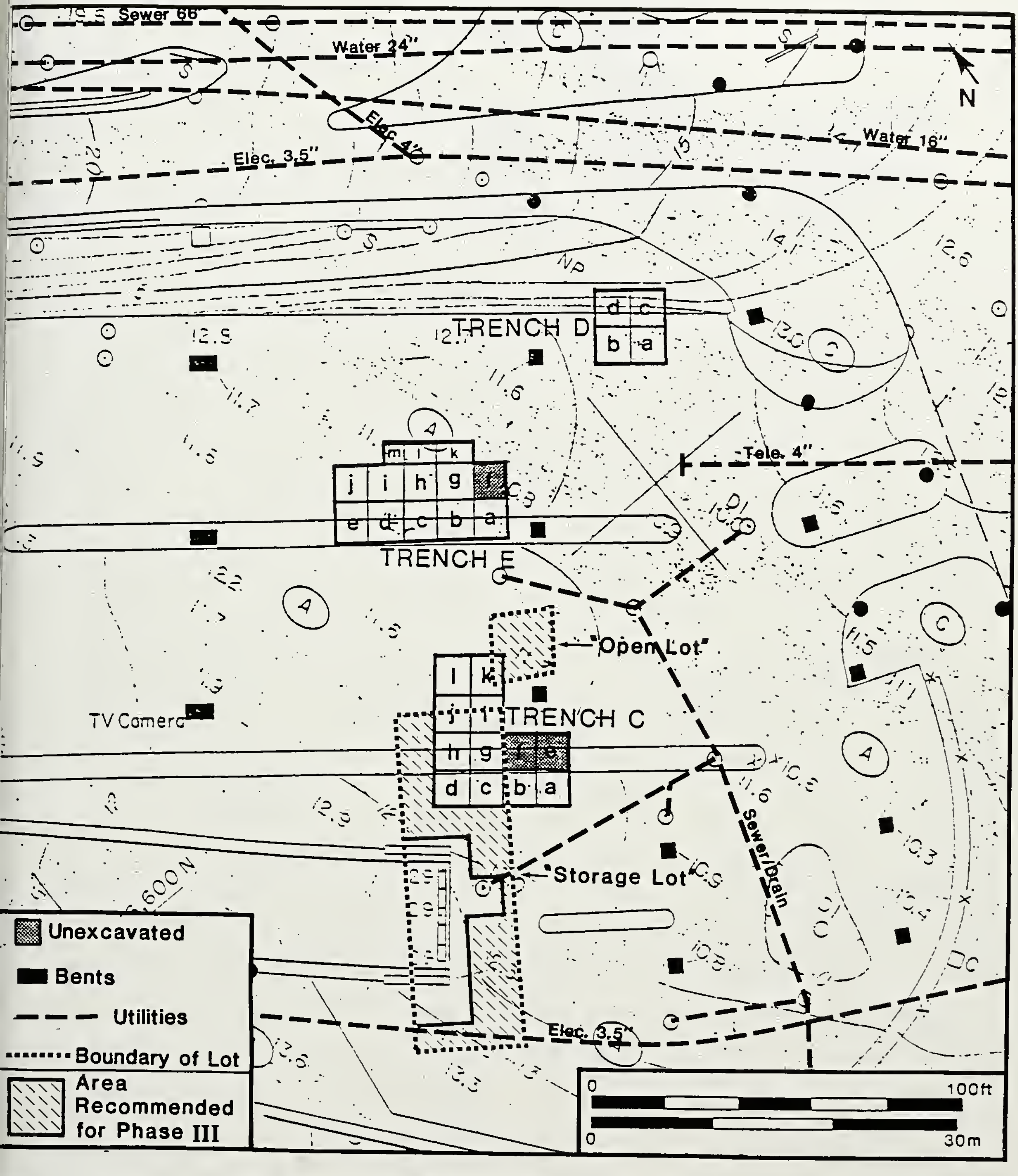

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Figure 4.54 NE03 Trench C. Area Recommended for Phase III Excavation

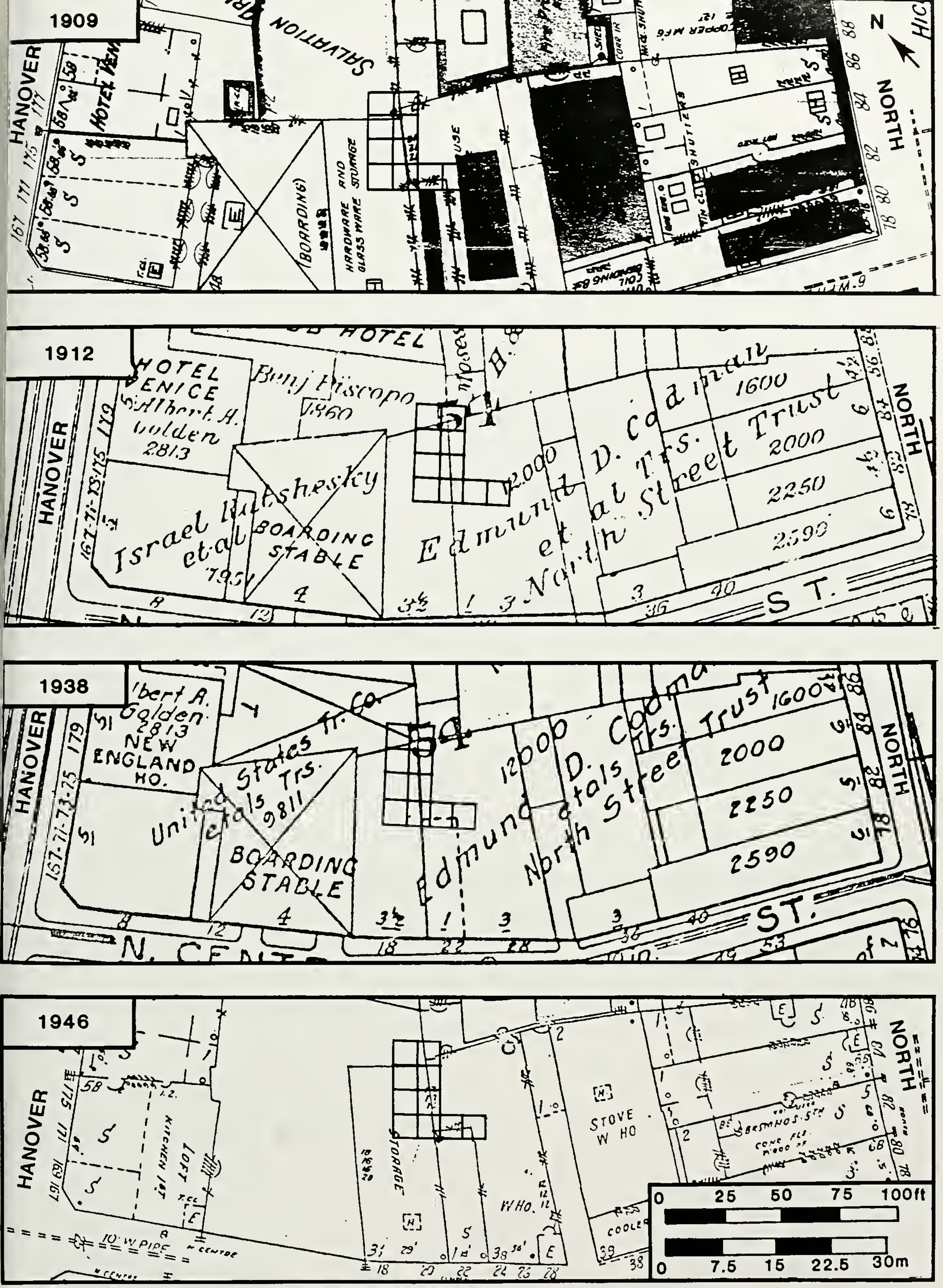

Figure 4.55 NE03 Trench C on Sanborn 1909 (Pl. 31), Bromley 1912 (Pl. 8), Bromley 1938 (Pl. 8), Sanborn 1946 (Pl. 18)

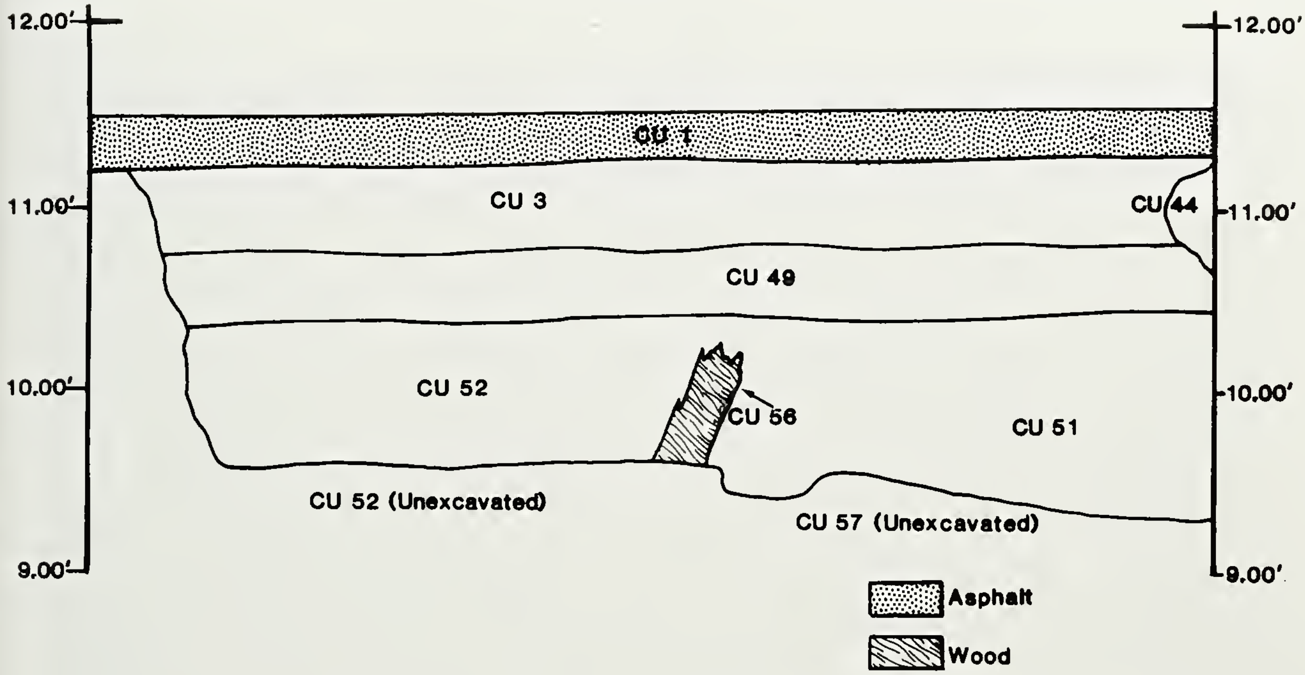

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Figure 4.56 NE03 Trench C. MU 10 East Wall Profile (Grid k)

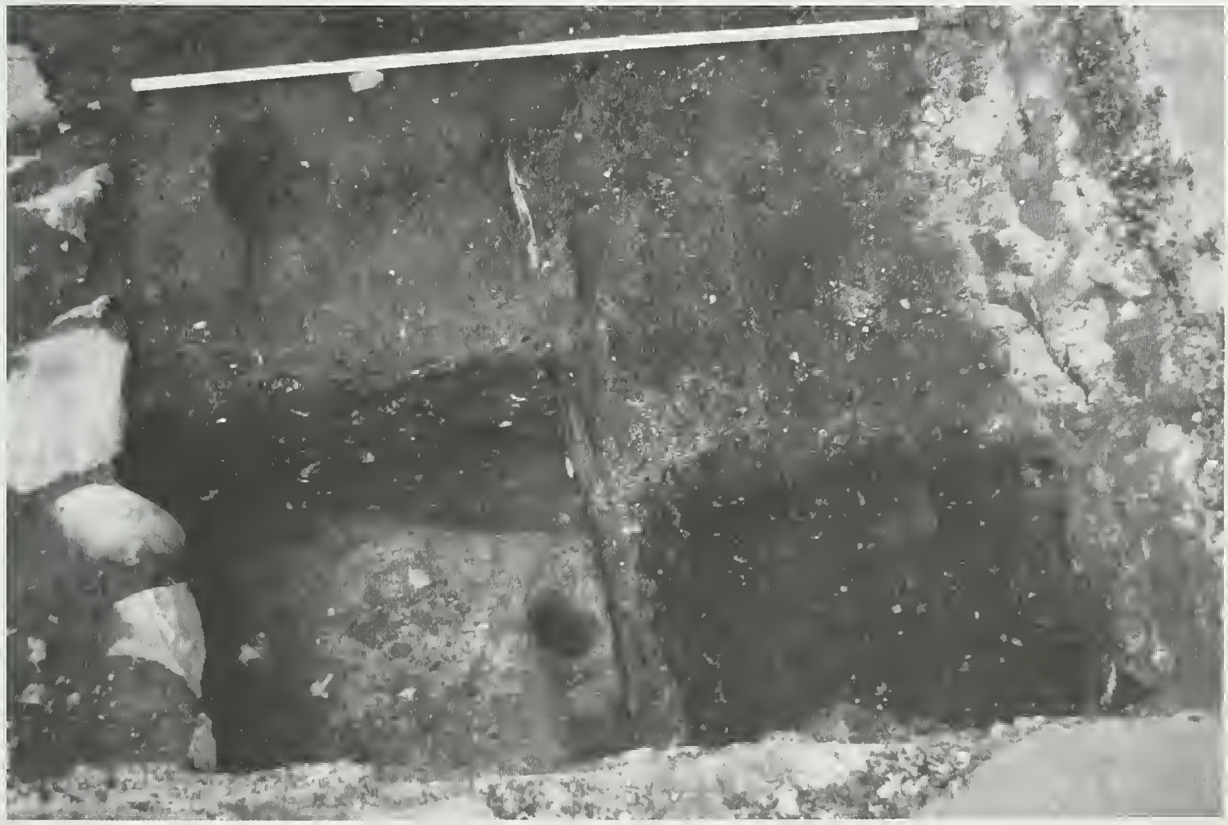

Figure 4.57 NE03 Trench C. Photograph of CU 51 (left of wood) and CU 52 (right of wood)

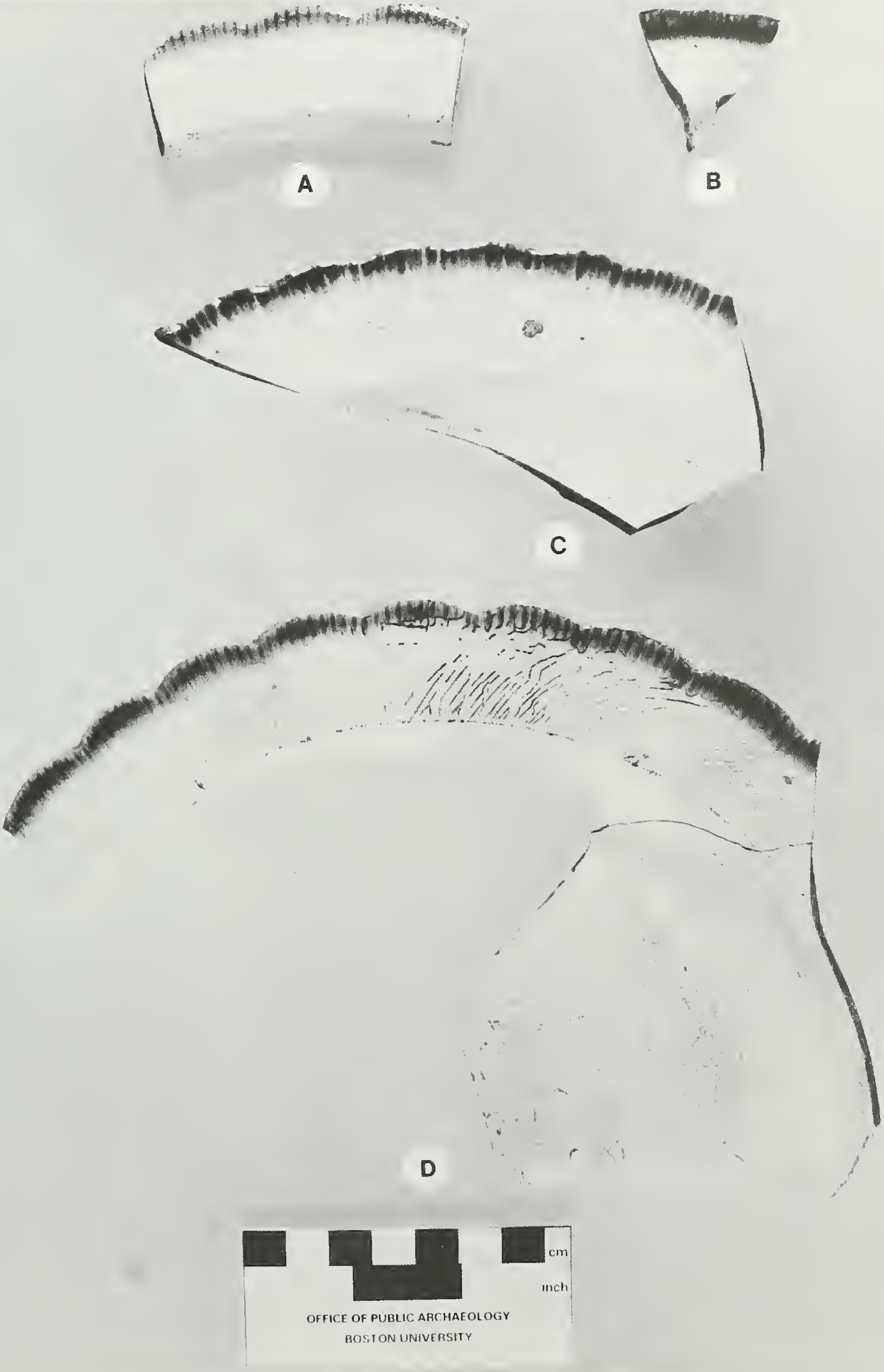

Figure 4.58 NE03 Trench C. Pearlwares from CU 52

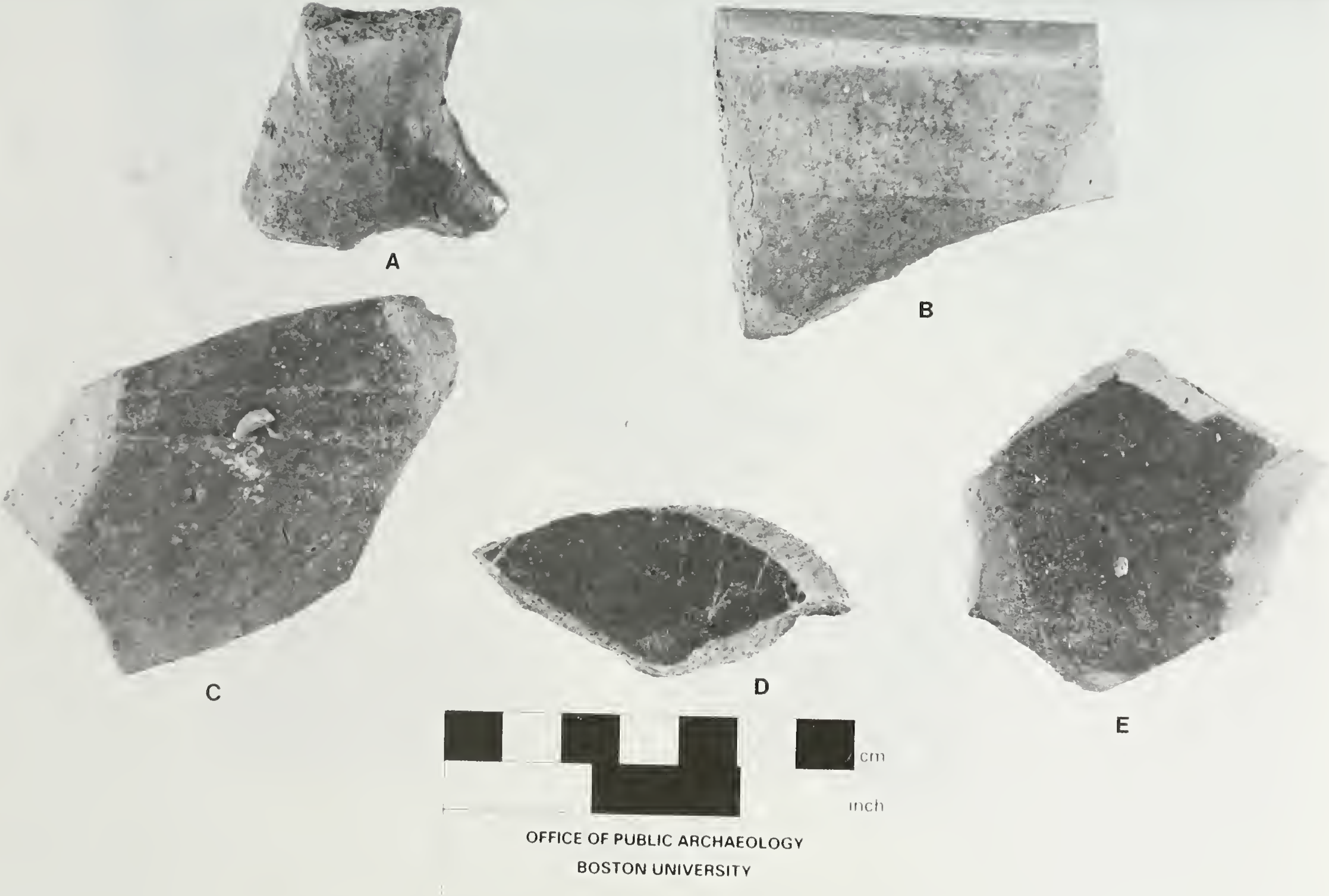

Figure 4.59 NE03 Trench C. Ceramics from CU 52. A, Redware Handle; B, North Devon Rim Fragment; C-E, Redware

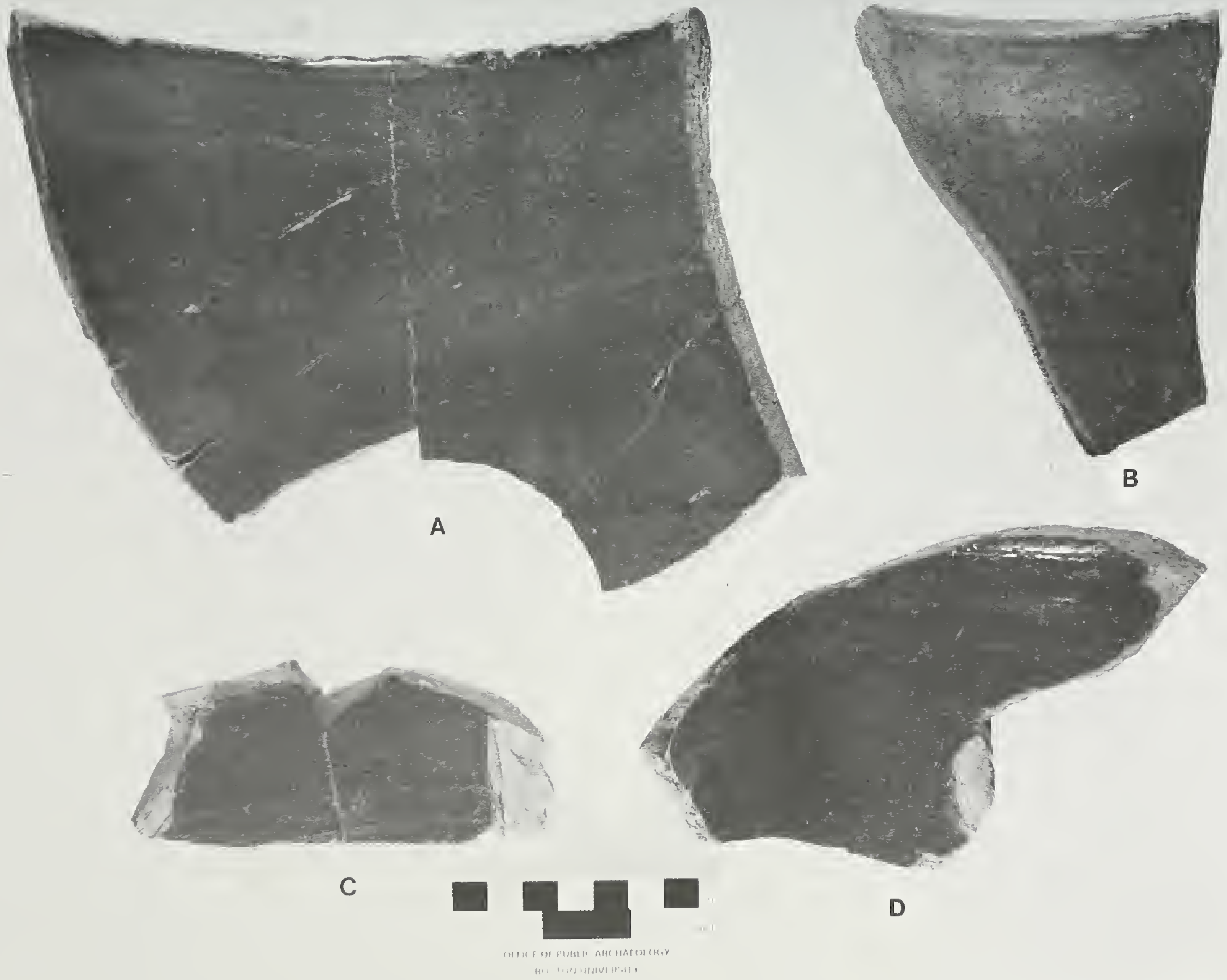

Figure 4.60 NE03 Trench C. Redware from CU 52

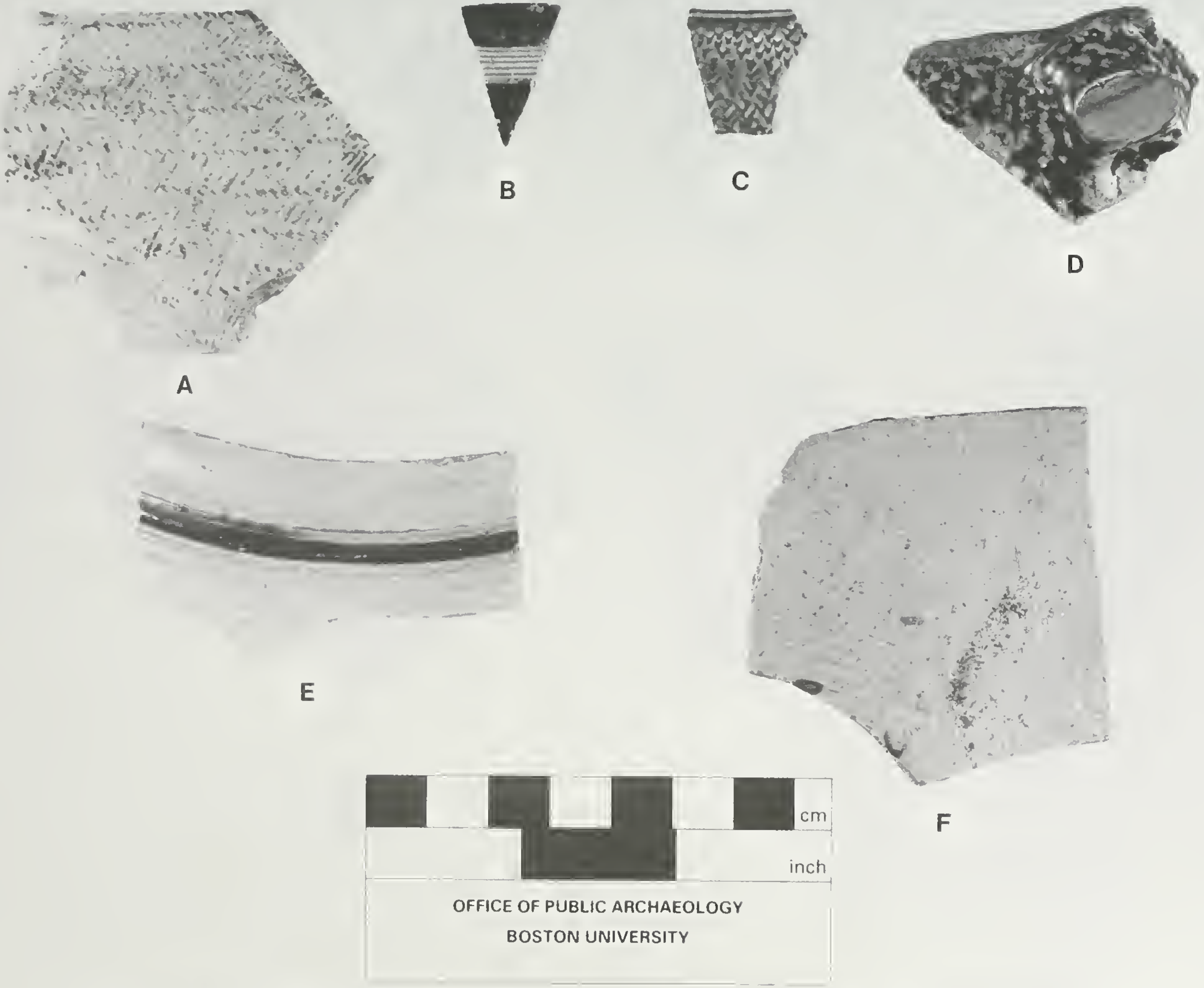

Figure 4.61 NE03 Trench C. Miscellaneous Stonewares from CU 51 (A-D) and CU 52 (E, F). A, Gray Salt-glazed; B, E, Westerwald; C, Nottingham; D, Brown Frechen; F, Albany Slip

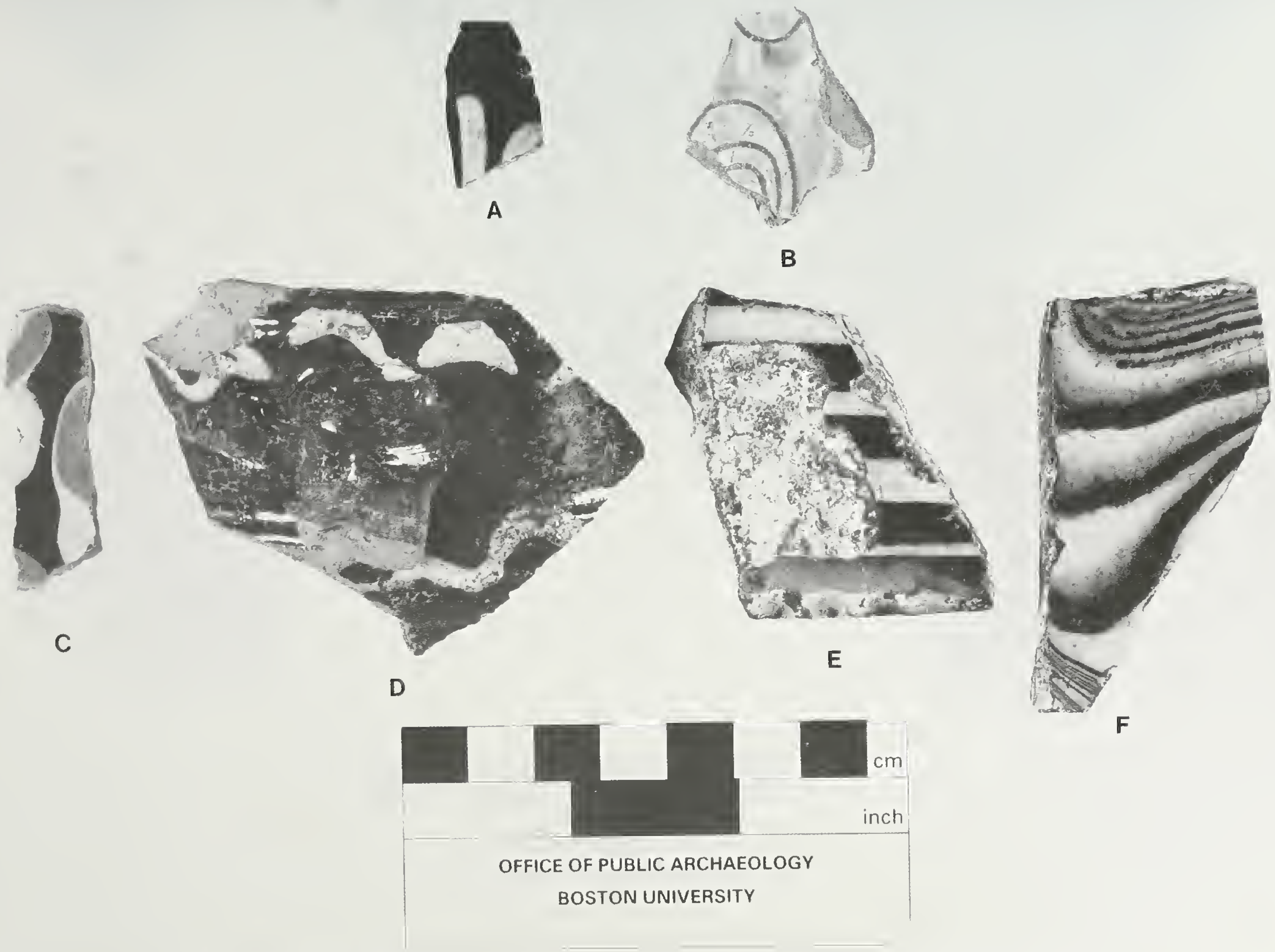

Figure 4.62 NE03 Trench C. Miscellaneous Earthenwares, CU 51. A, E, F, Slipware; B, North Devon Sgrafitto; C, D, Slipped Redware

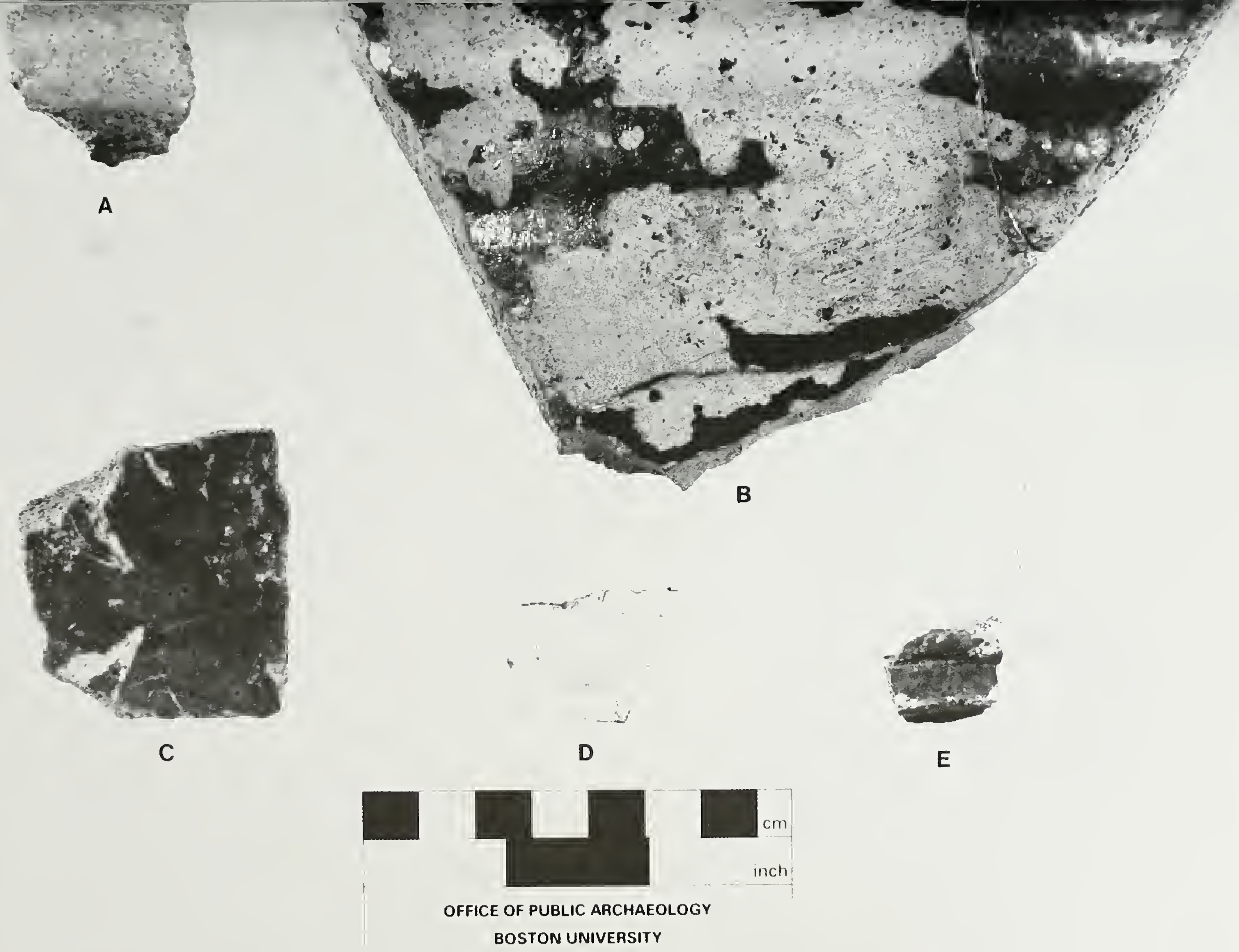

Figure 4.63 NE03 Trench C. Miscellaneous Earthenwares, CU 51. A, North Devon; B, Redware; C, Unidentified Green Glazed; D, Staffordshire Press-molded; E, Unidentified Buff-paste

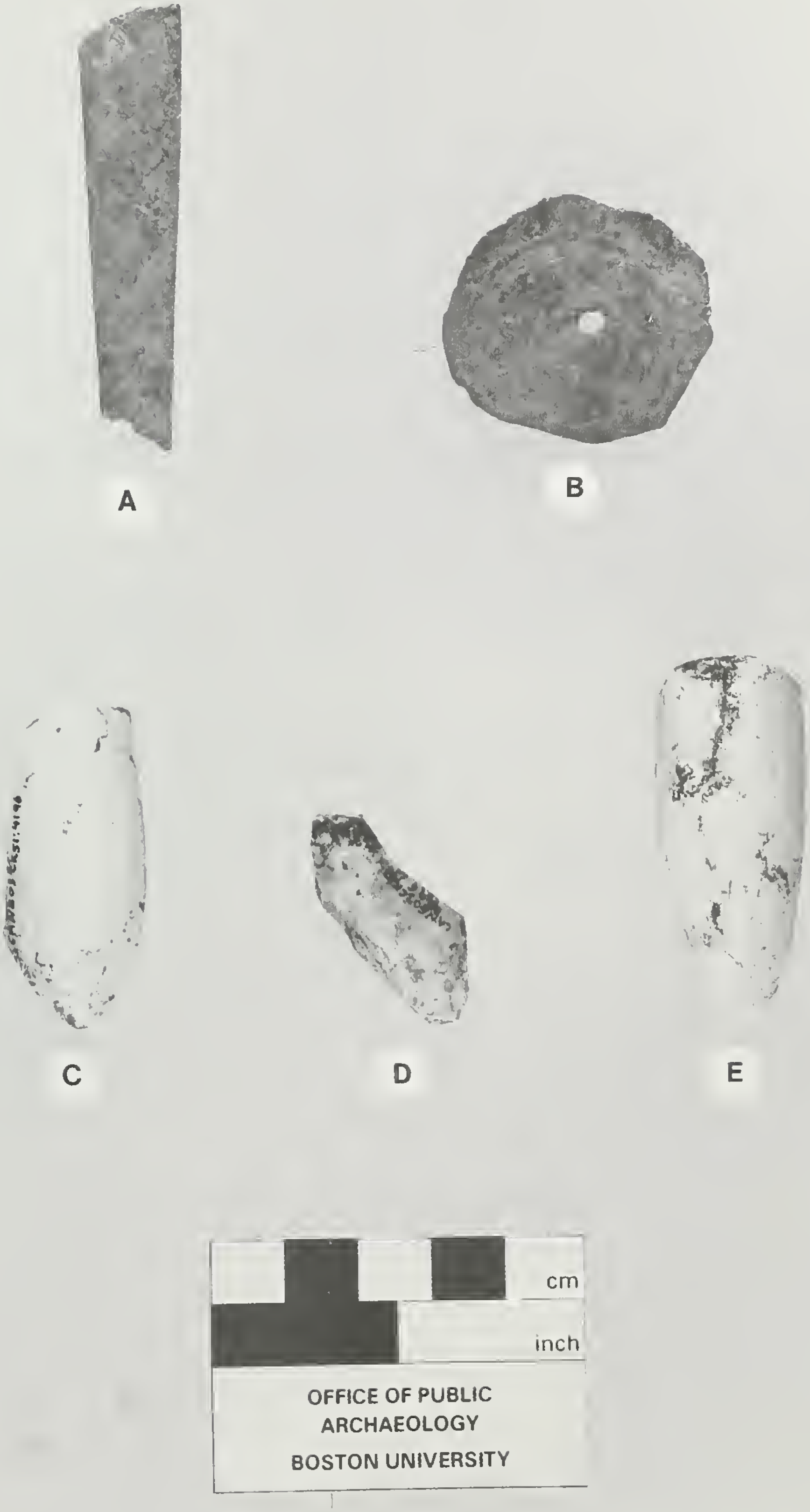

Figure 4.64 NE03 Trench C. Miscellaneous Artifacts, CU 51. A, Bone Fan Strut (?); B, Lead Bale Seal; C-E, Kaolin Pipe Fragments

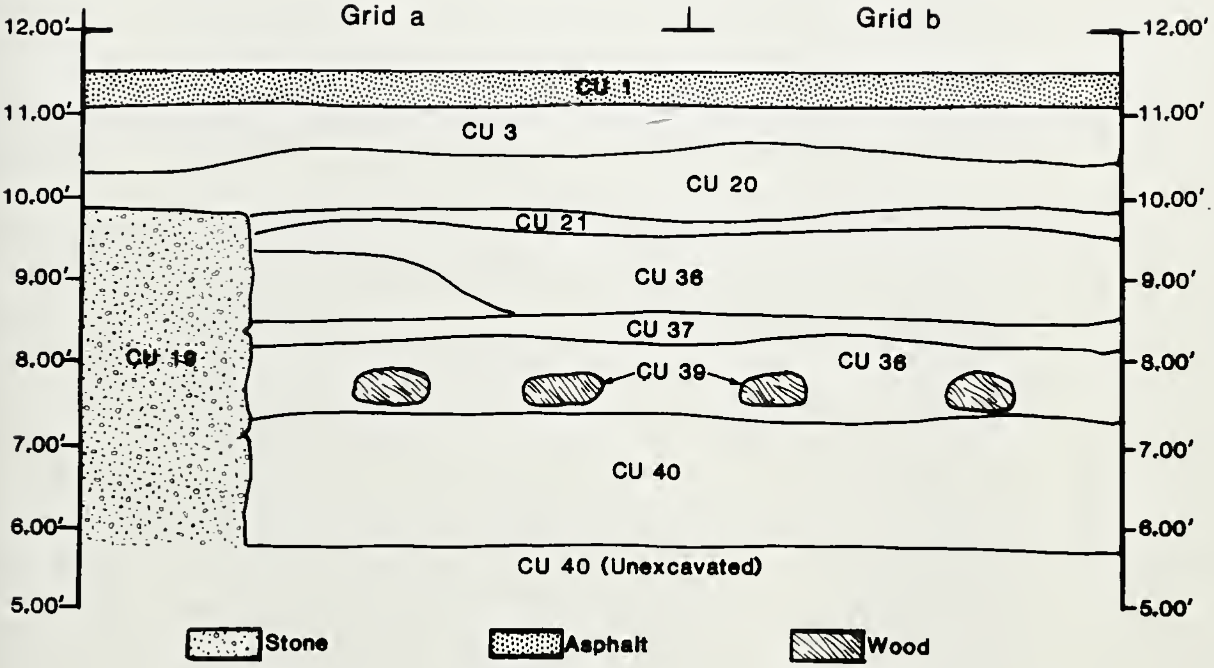

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Figure 4.65 NE03 Trench C. Deep Test 4. South Wall Profile (Grids a and b)

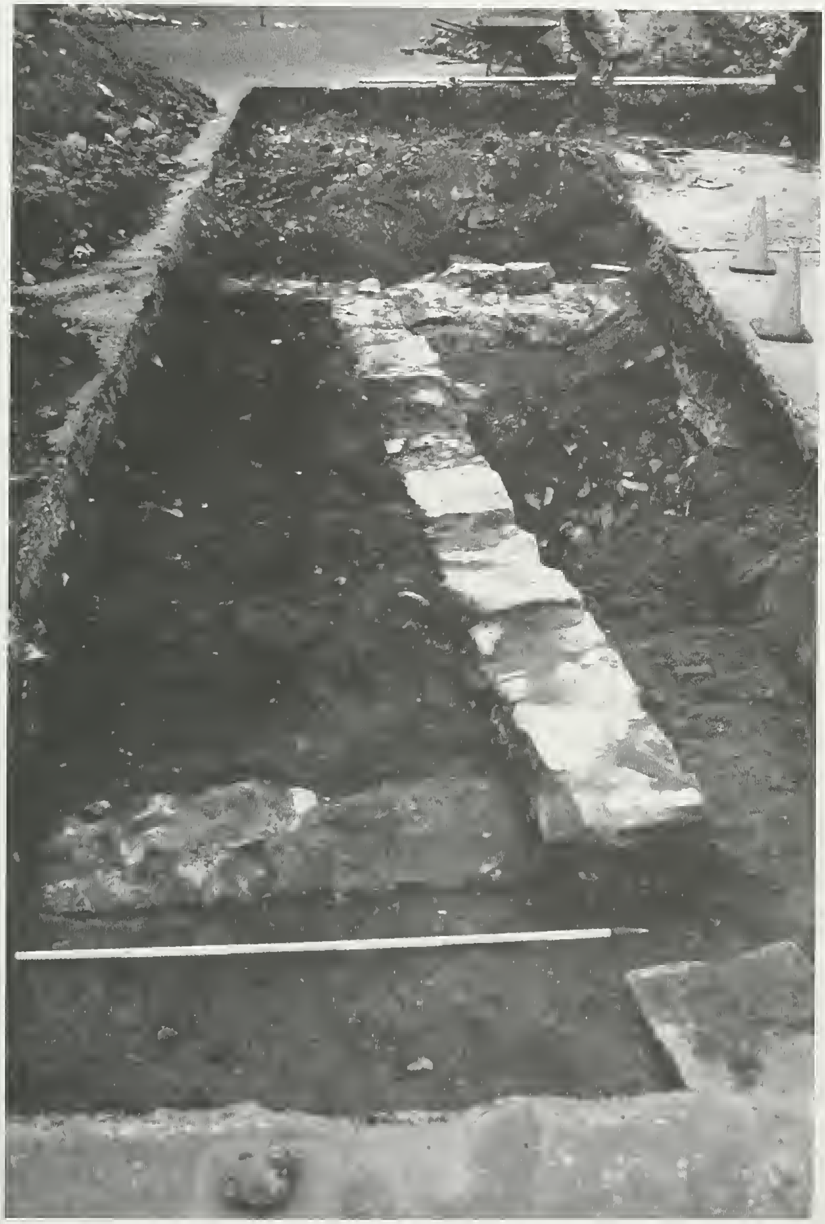

Figure 4.66 NE03 Trench C. Photograph of Foundation of "Tin Shop", Looking West

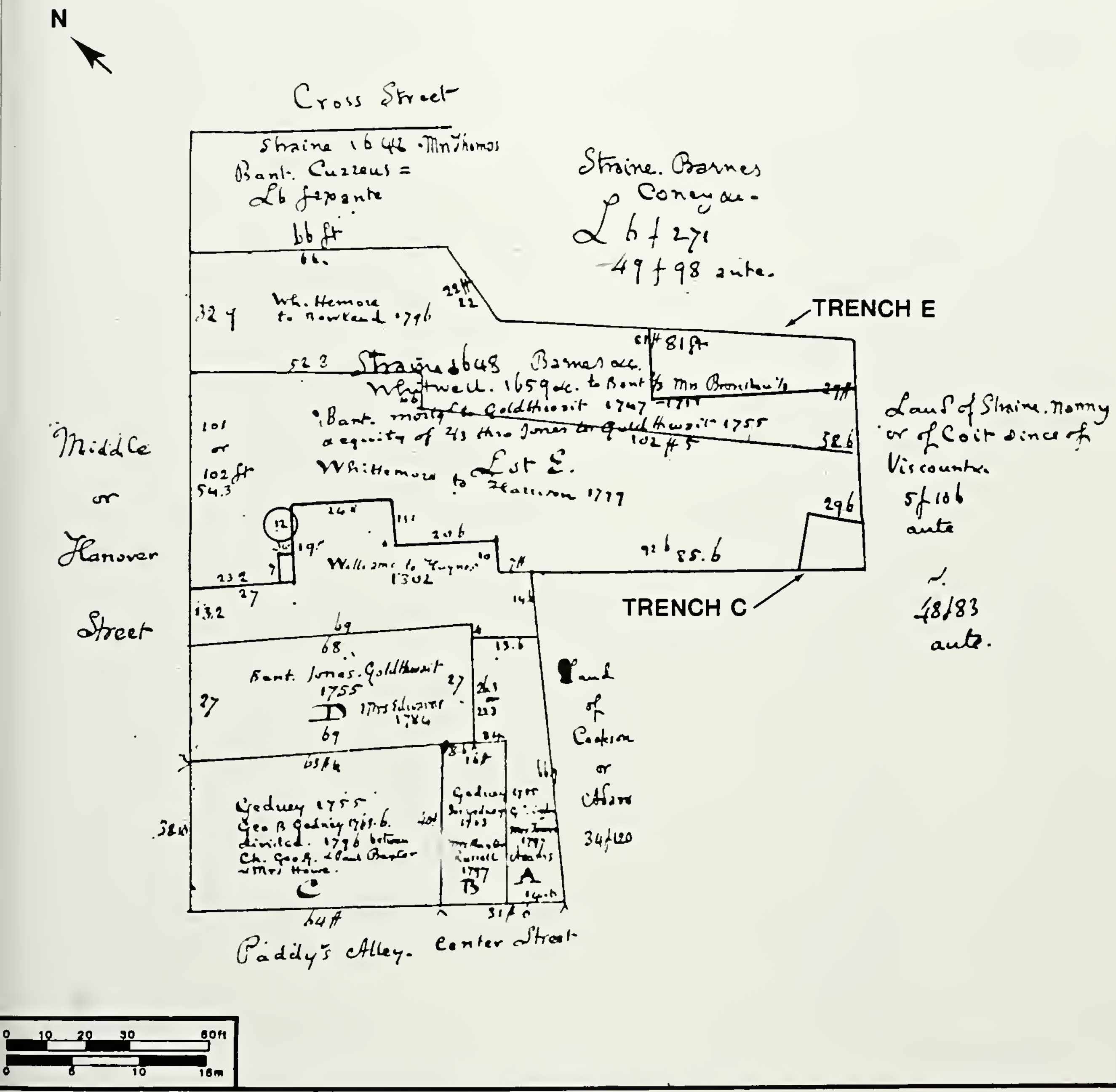

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Figure 4.67 NE03 Trench C. "Wagon Ho." Lot on Plan from Bowditch 50: 106

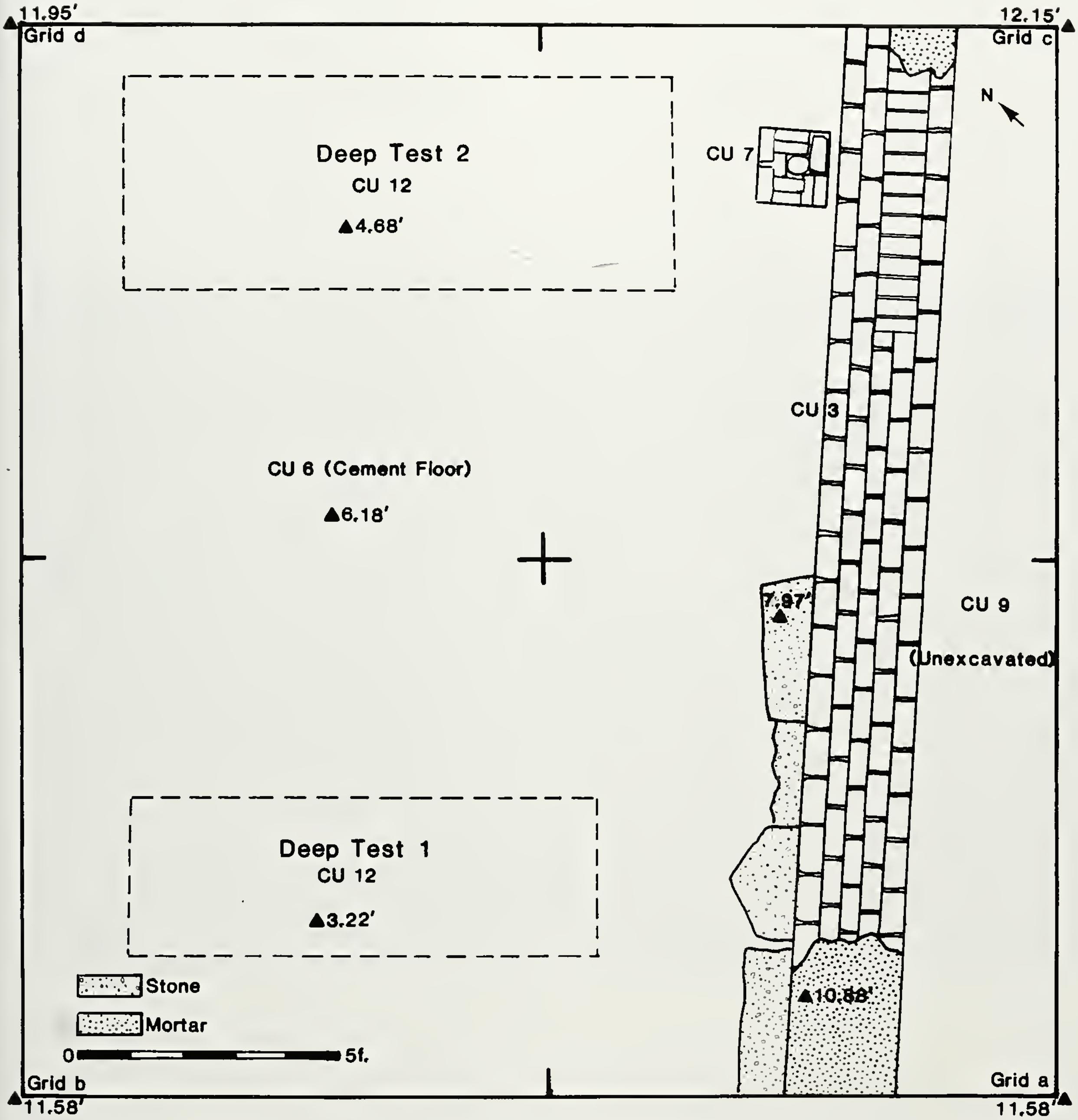

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Figure 4.68 NE03 Trench D. Plan of Testing

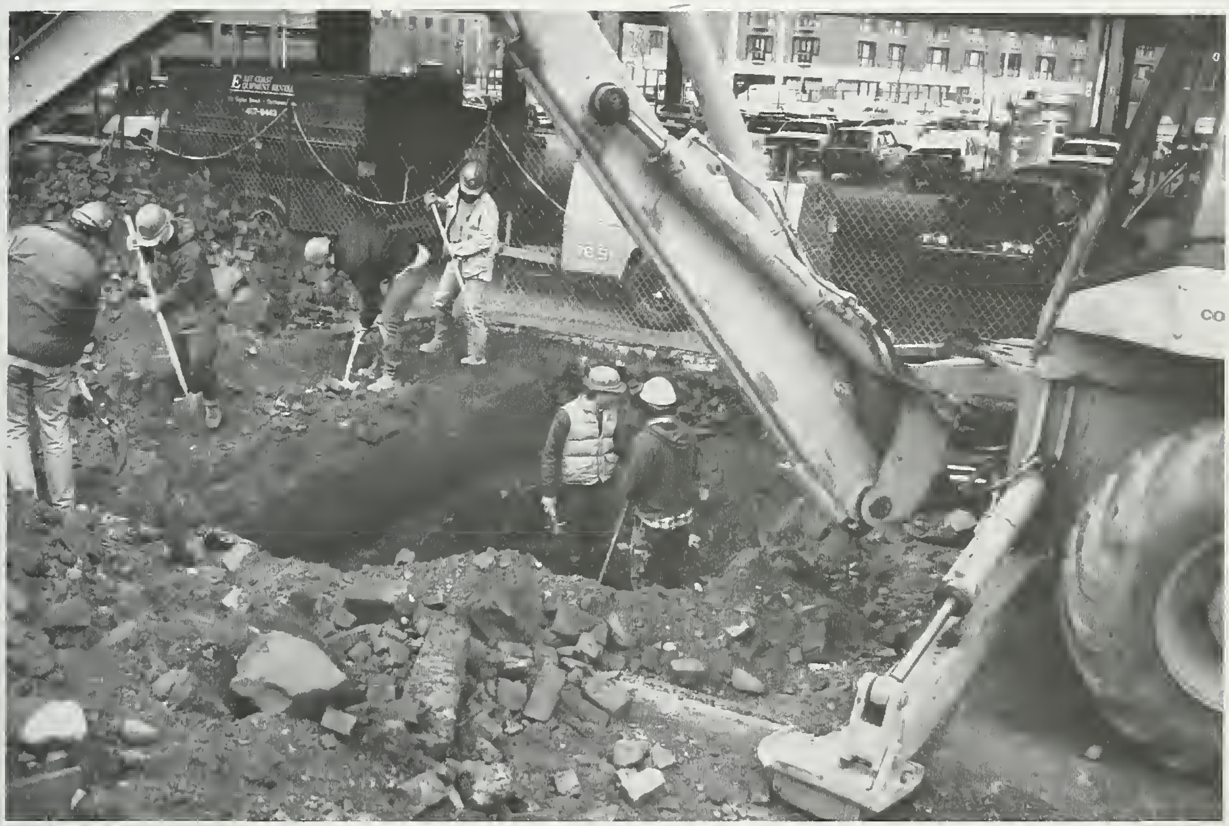

Figure 4.69 NE03 Trench D. Examining Deposits Exposed by the Backhoe

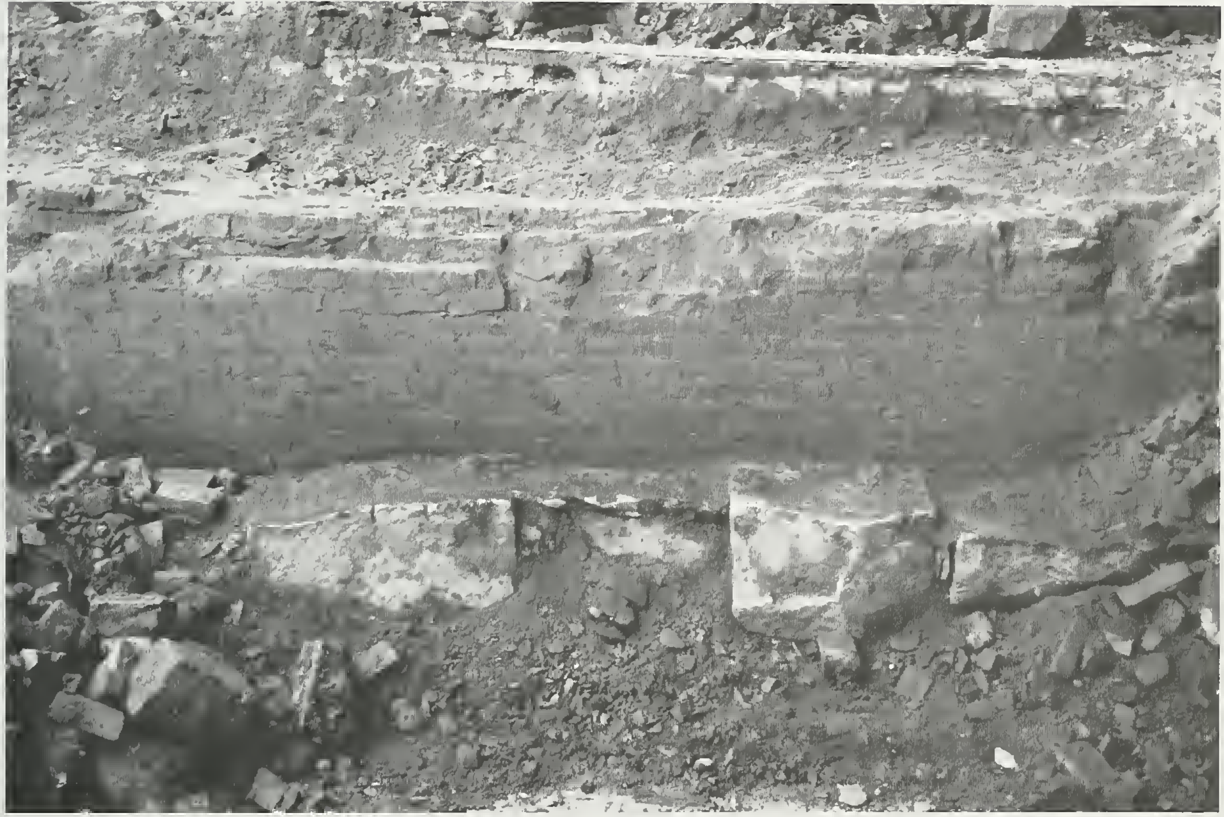

Figure 4.70 NE03 Trench D. CU 3, Looking East

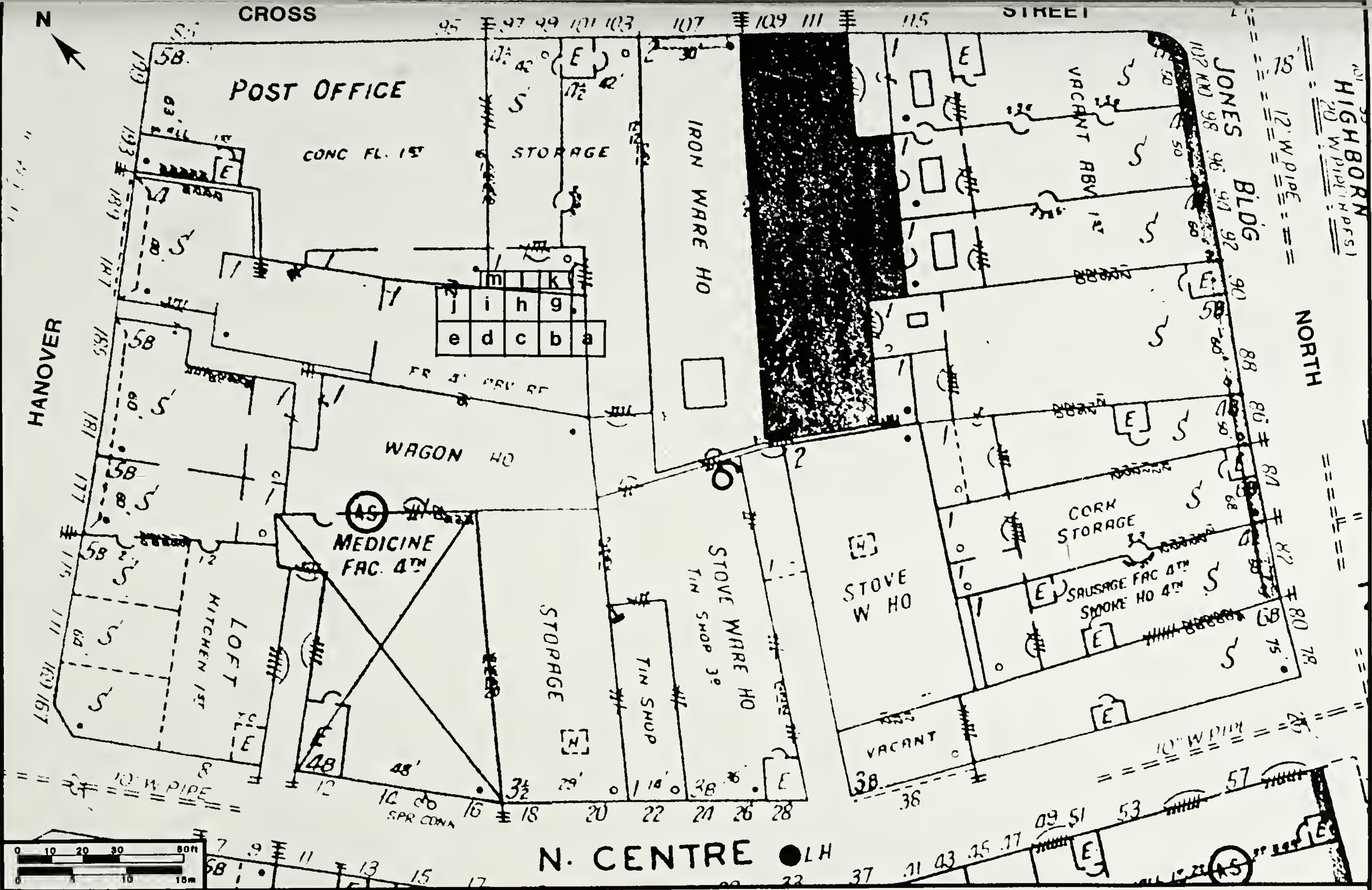

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Figure 4.71 NE03 Trench E on Sanborn 1929 (Pl. 18)

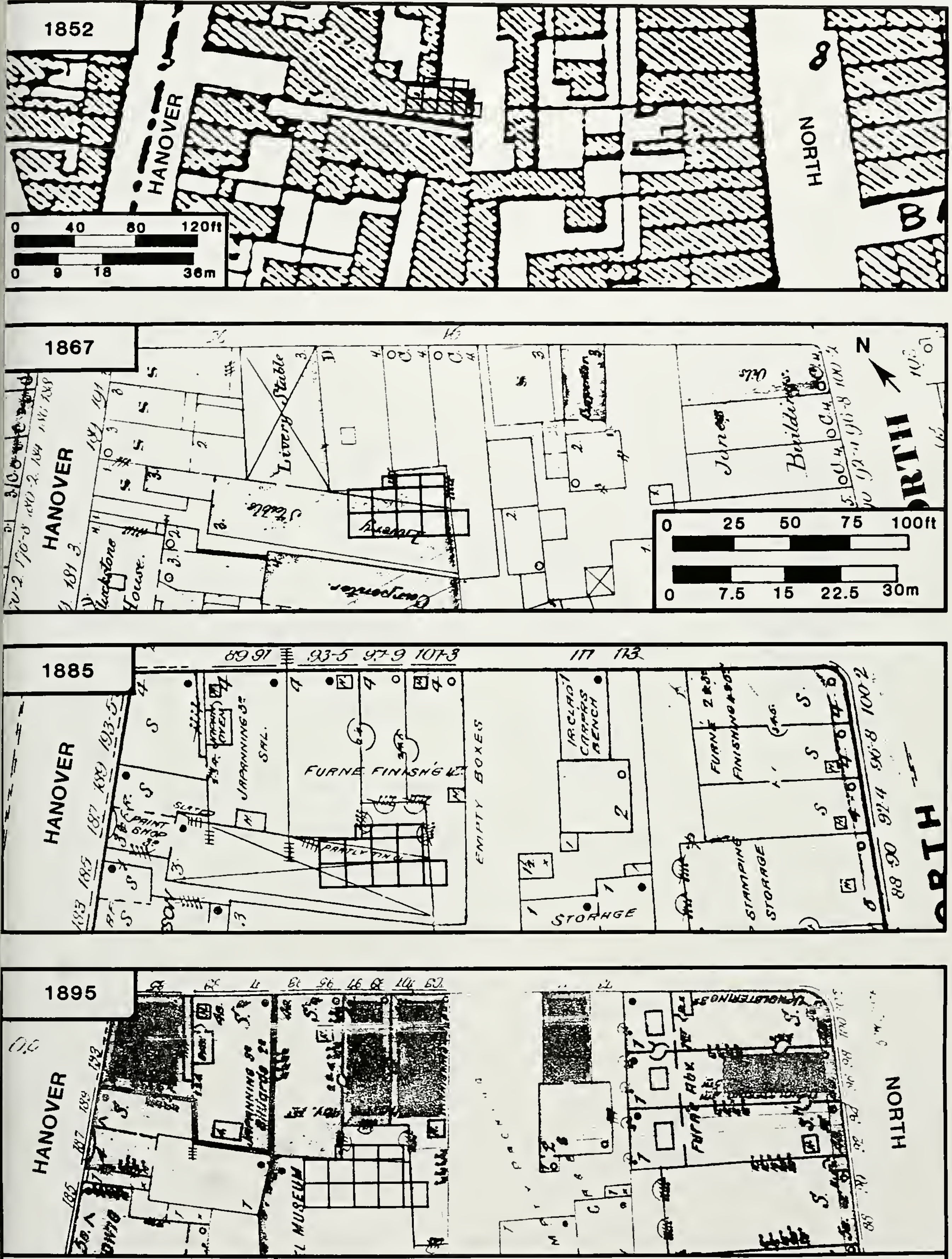

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Figure 4.72 NE03 Trench E on Slatter and Callan 1852, Sanborn 1867 (Pl. 7), Sanborn 1885 (Pl. 15), Sanborn 1895 (Pl. 31)

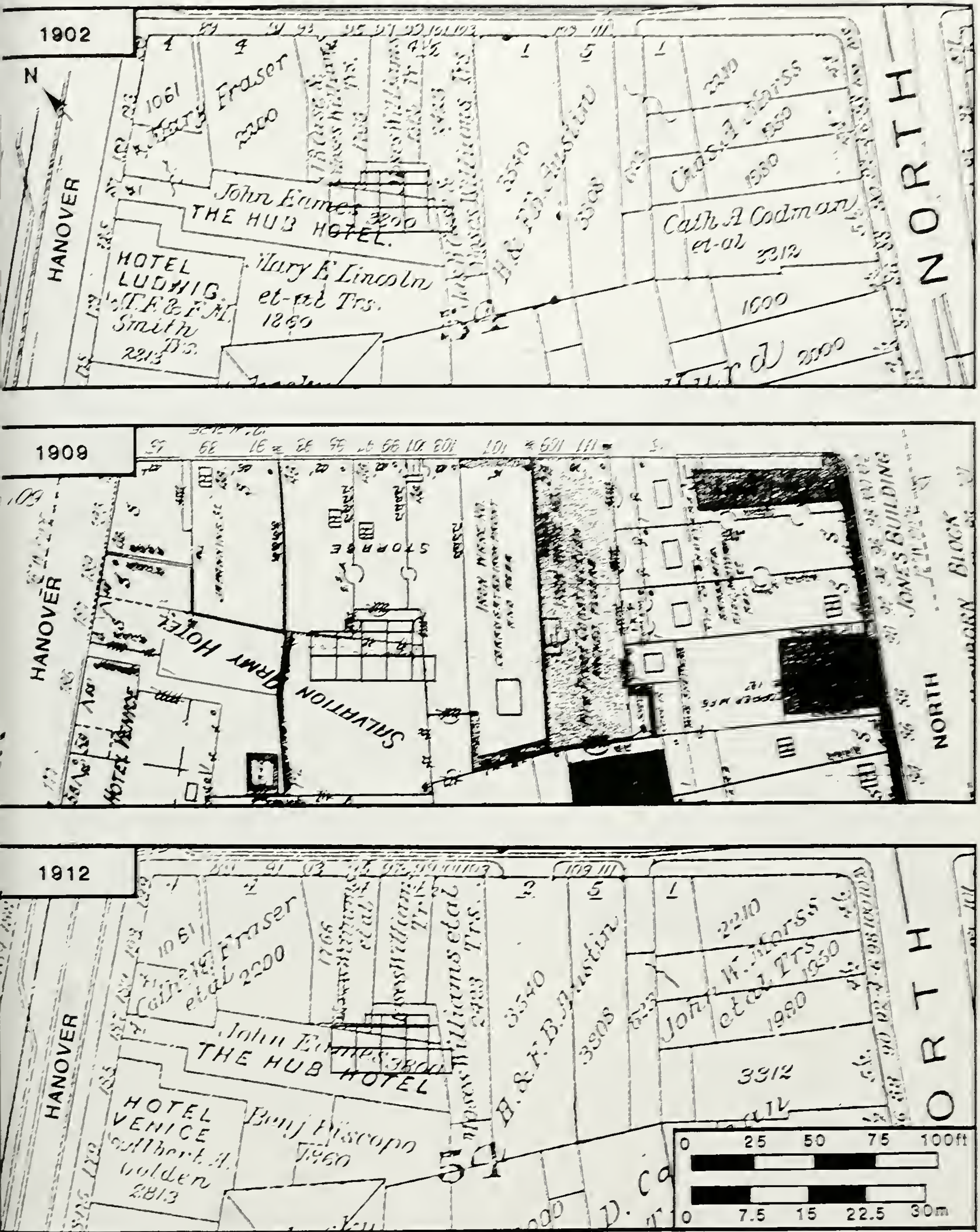

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Figure 4.73 NE03 Trench E on Bromley 1902 (Pl. 8), Sanborn 1909 (Pl. 31), Bromley 1912 (Pl. 8)

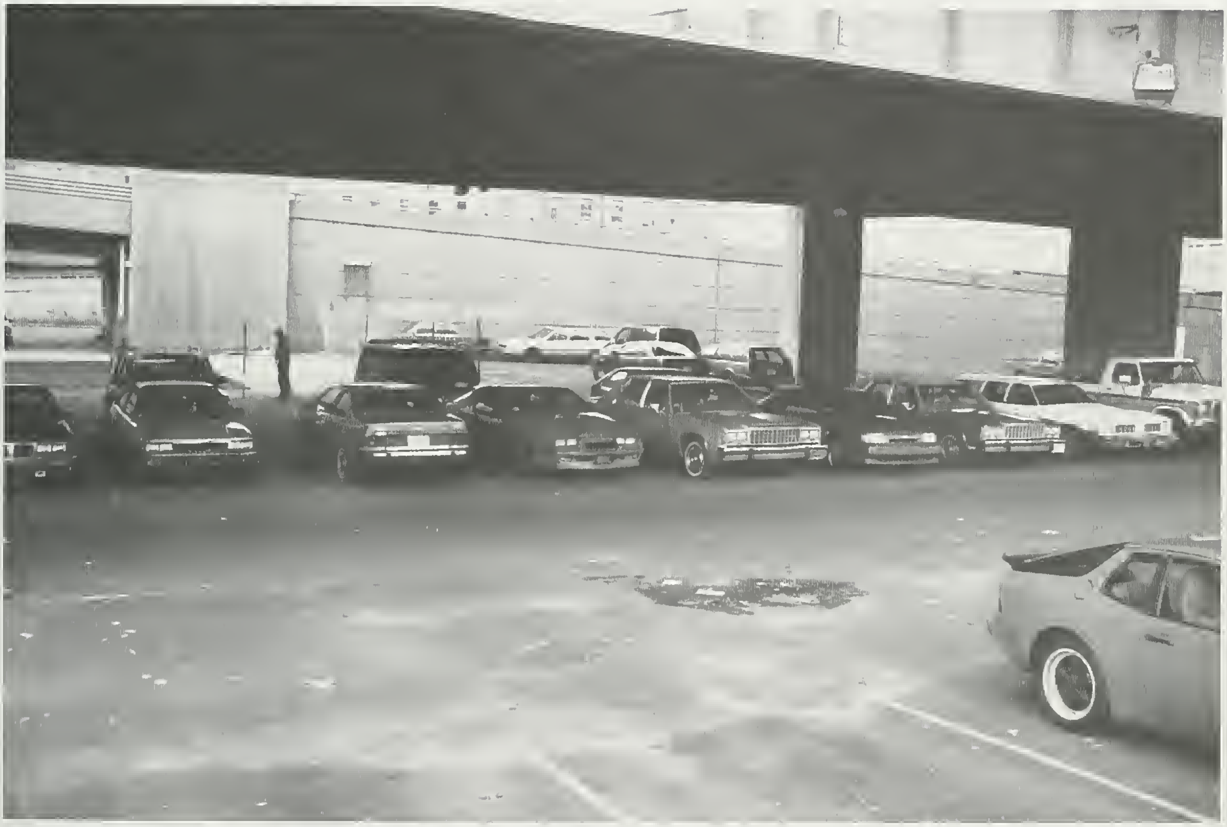

Figure 4.74 NE03 Trench E Prior to Excavation. The Excavation Area was Under the Row of Parked Cars in the Center of the Photograph. View Looking West.

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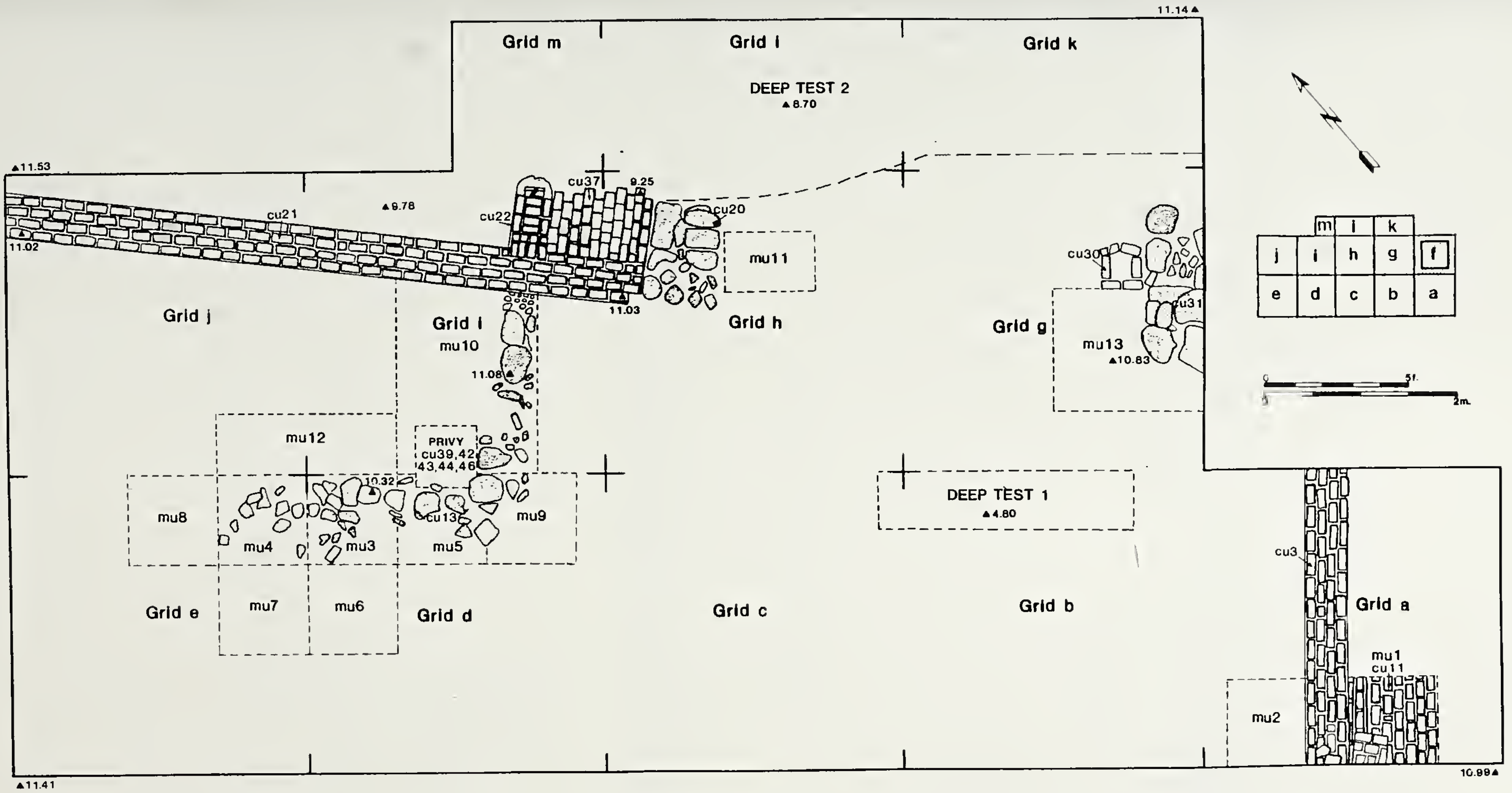

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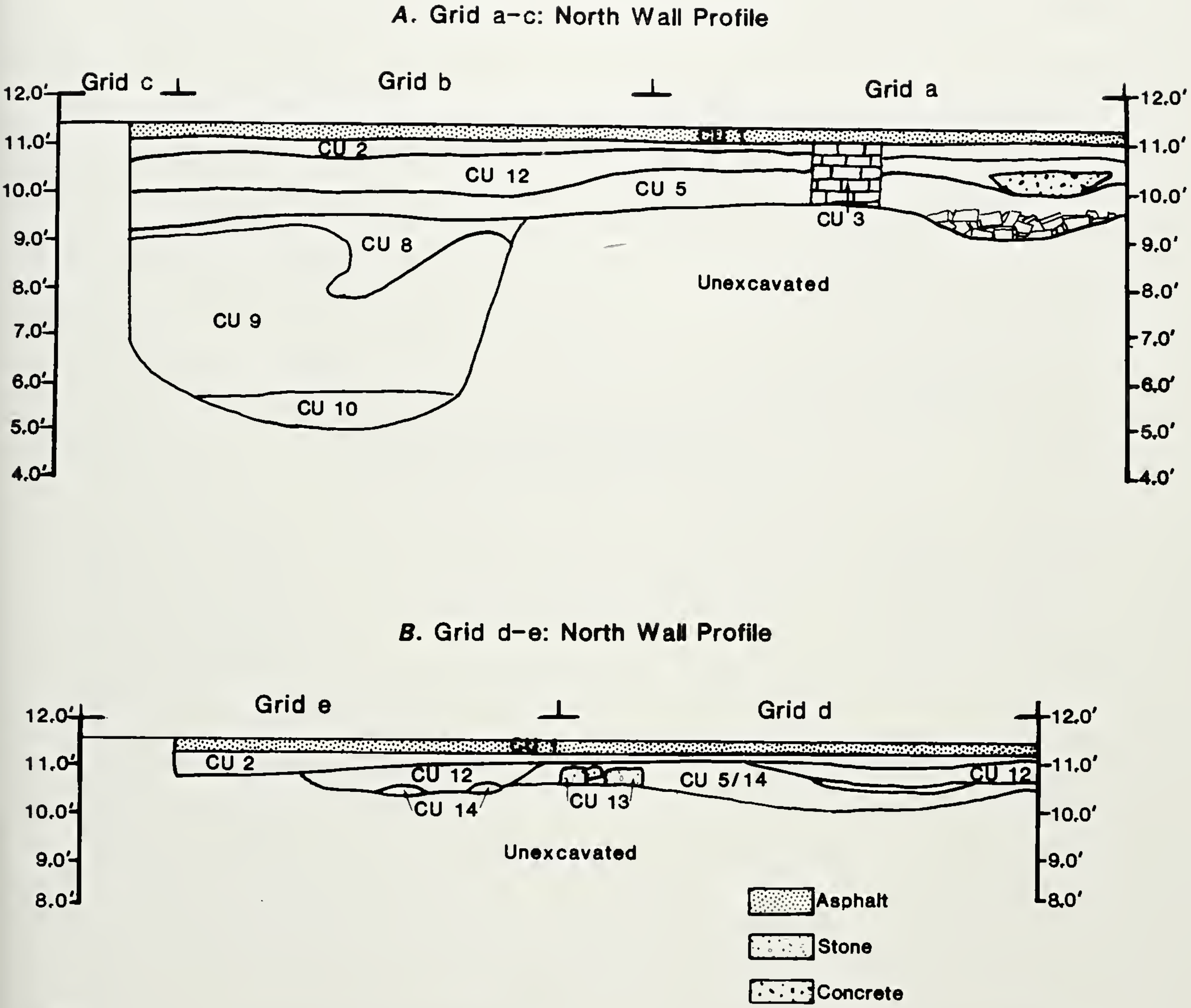
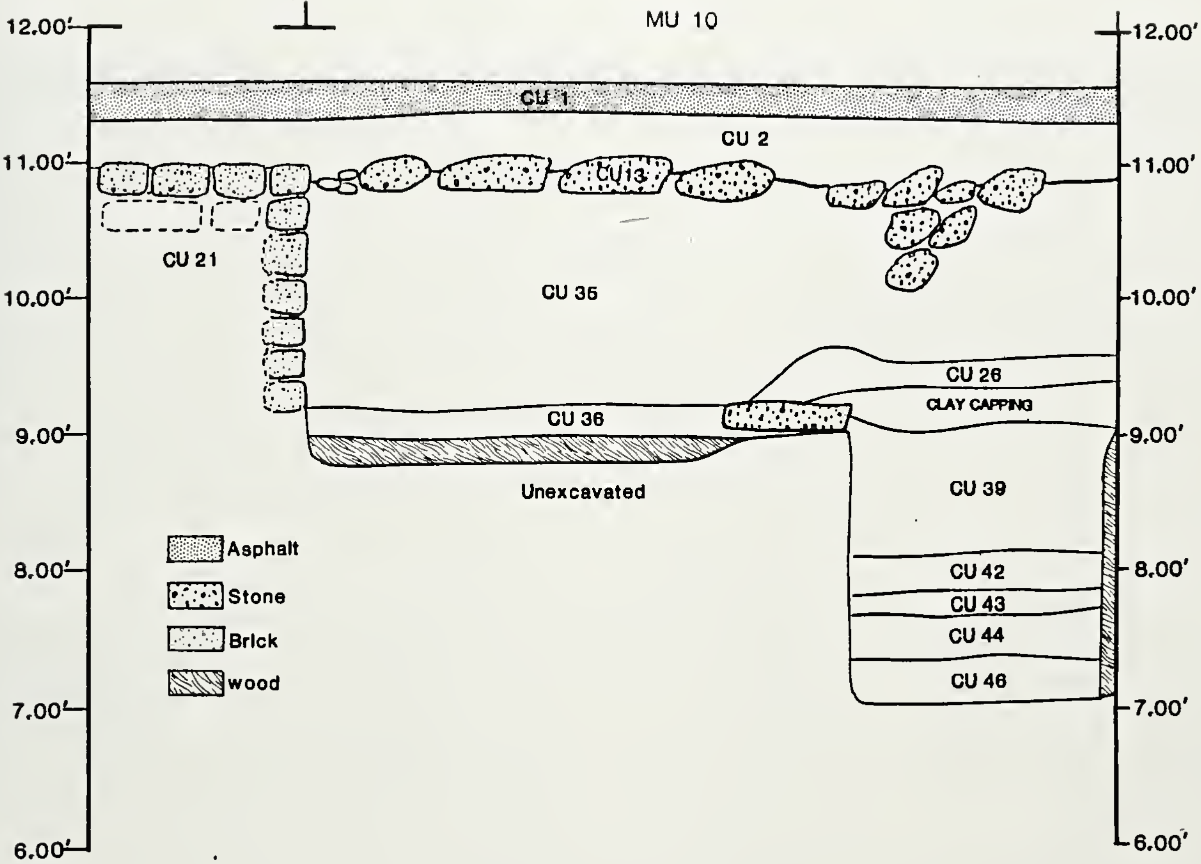
Figure 4.75 NE03 Trench E. Plan of Testing



A. Grid a–c: North Wall Profile

B. Grid d–e: North Wall Profile

I-90/I-93 Project Phase II Archaeology Office of Public Archaeology Boston University	Figure 4.76 NE03 Trench E. Profile of North Wall (Grids c, b, and a). Profile of the North Wall (Grids e and d)



I-90/I-93 Project Phase II Archaeology Office of Public Archaeology Boston University	Figure 4.77 NE03 Trench E. MU 10. East Wall Profile (Grid i)

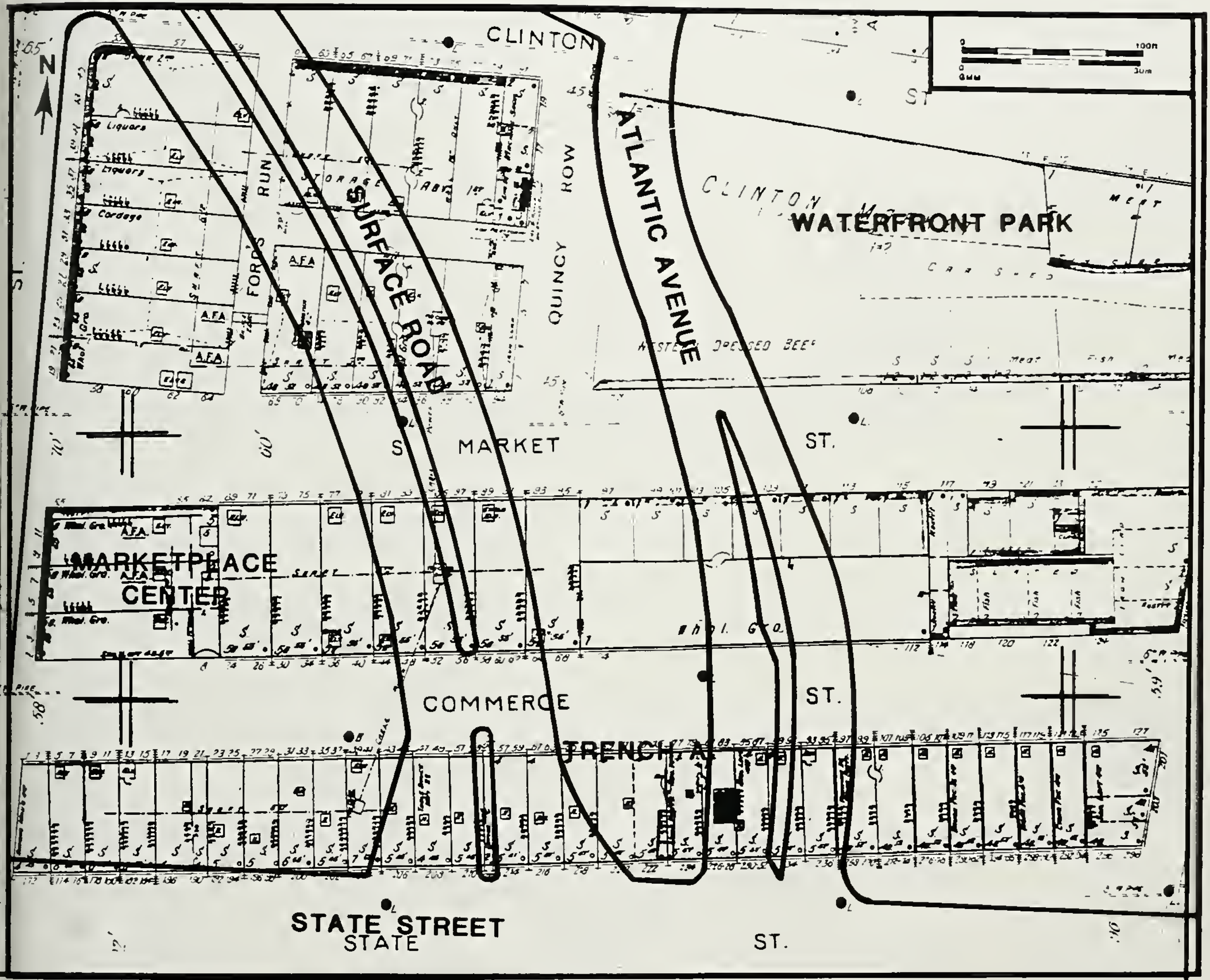


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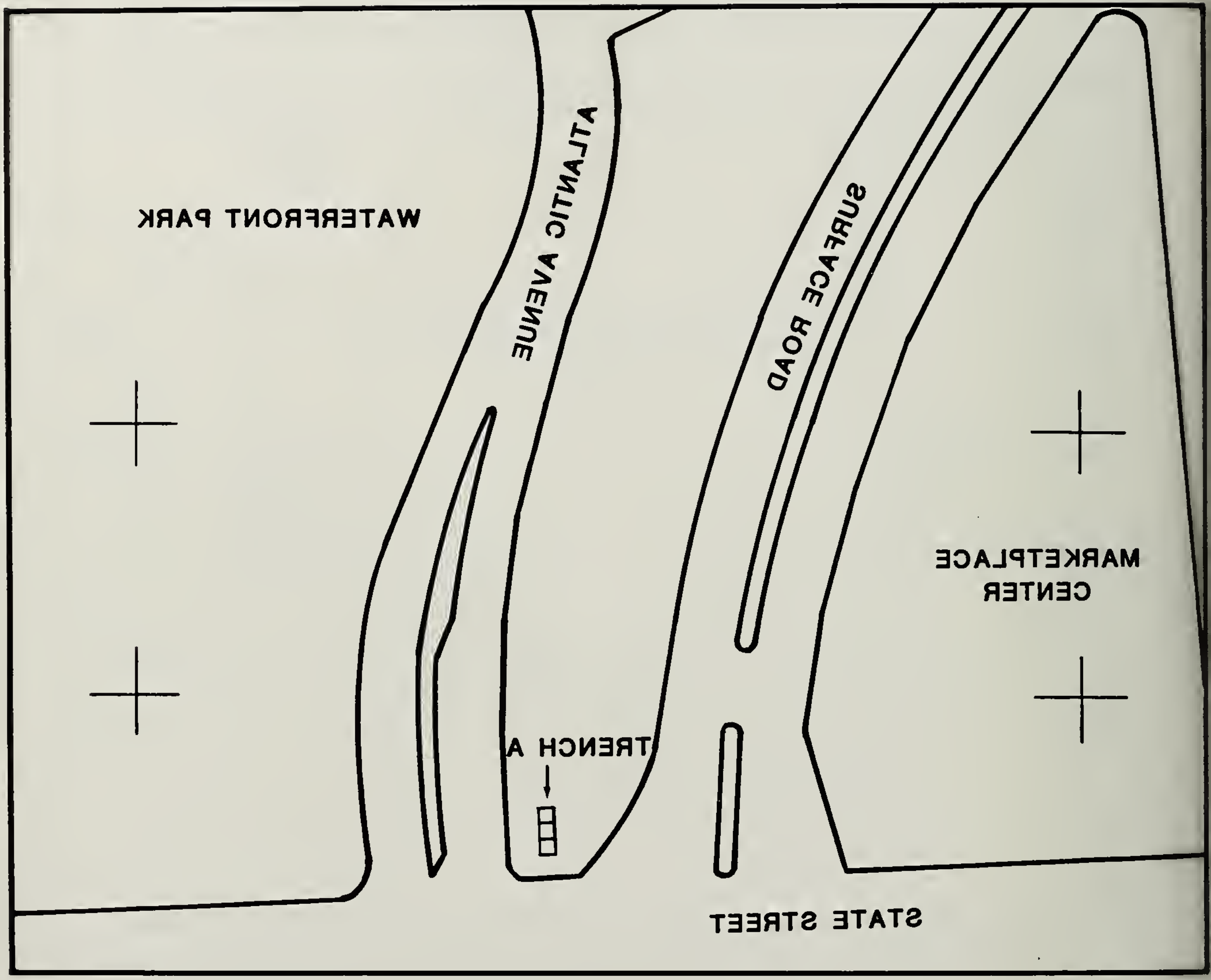
Figure 5.1 Modern Plan of Block TC01 over Historic Map of TC01 Area (Sanborn 1895: Pl. 35) Showing Location of Test Trench


WATERFRONT PARK
ATLANTIC AVENUE
SURFACE ROAD
MARKETPLACE CENTER
TRENCH A
STATE STREET

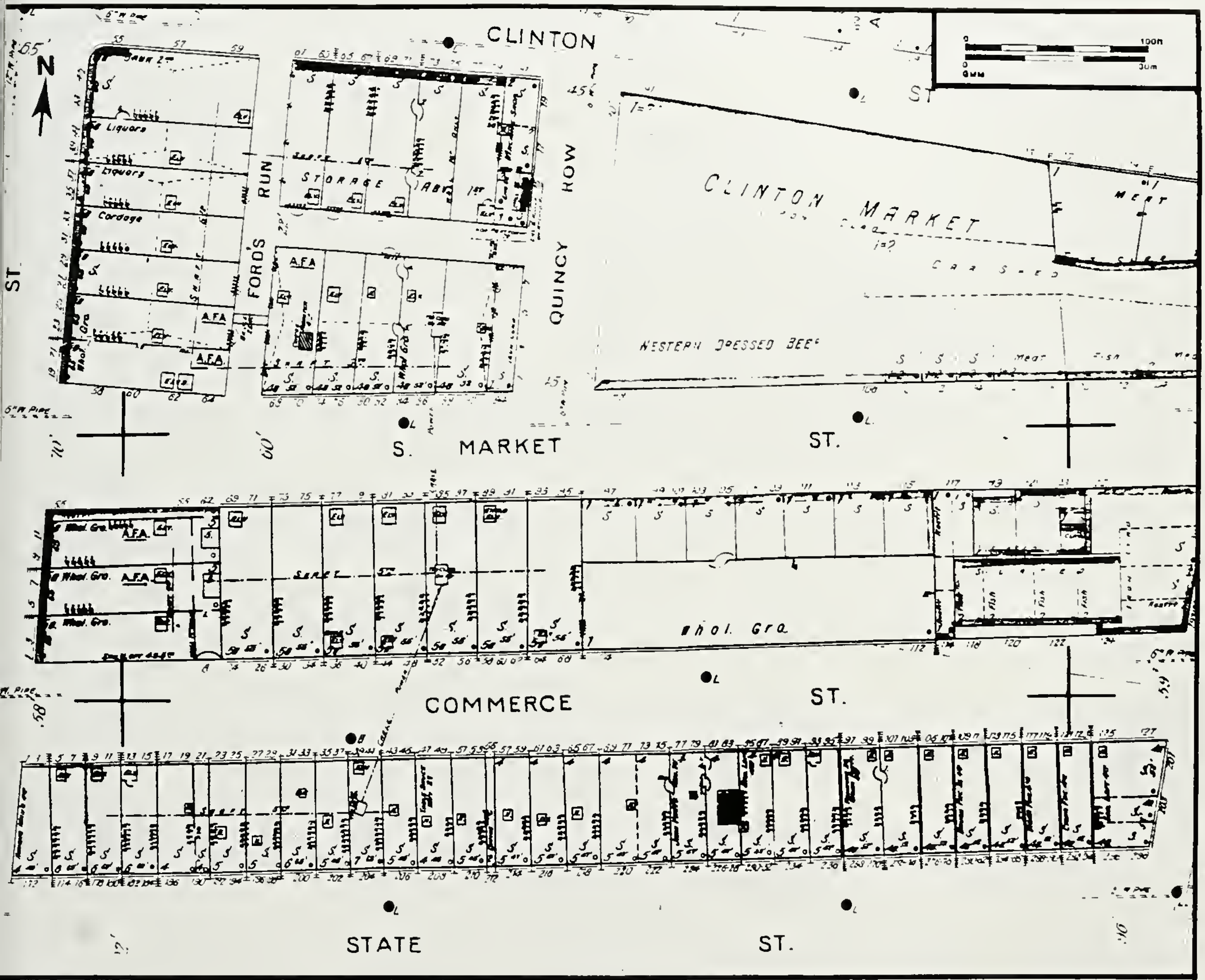


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Figure 5.1 Modern Plan of Block TC01 over Historic Map of TC01 Area (Sanborn 1895: Pl. 35) Showing Location of Test Trench

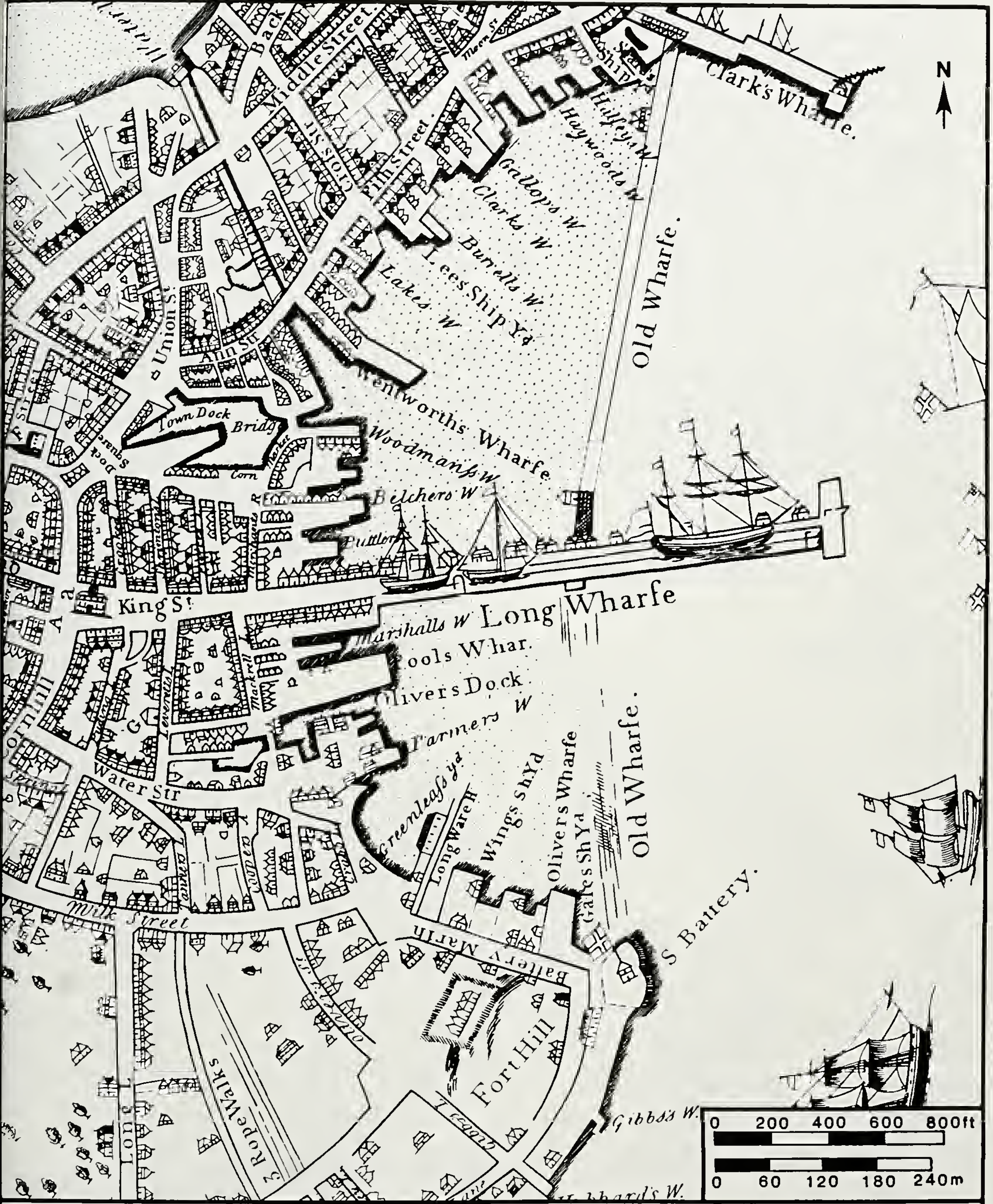

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Figure 5.2 Long Wharf from Bonner 1722

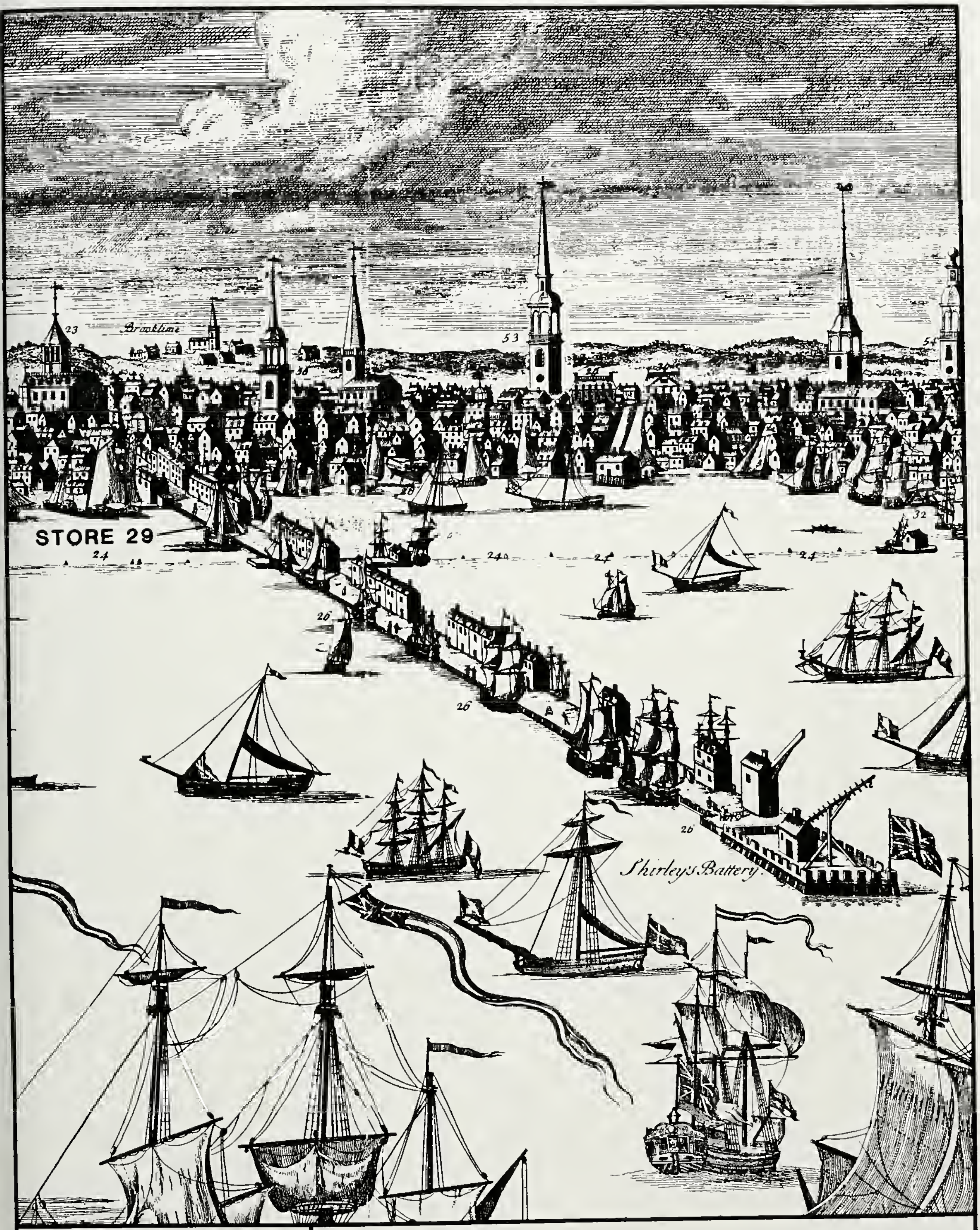

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Figure 5.3 Long Wharf from Burgis 1743

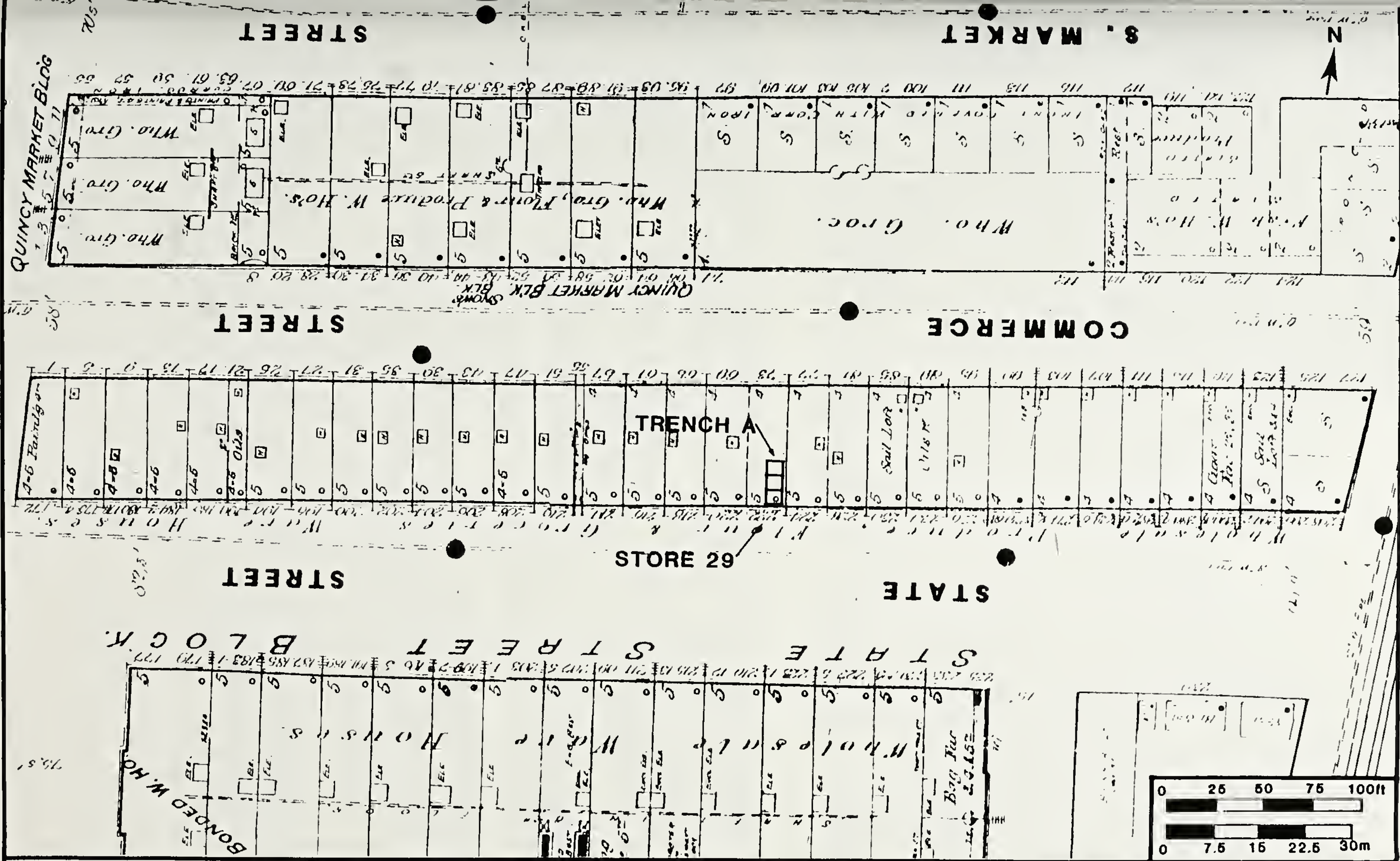

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Figure 5.4 TC01 Trench A on Sanborn 1885 (Pl. 17)

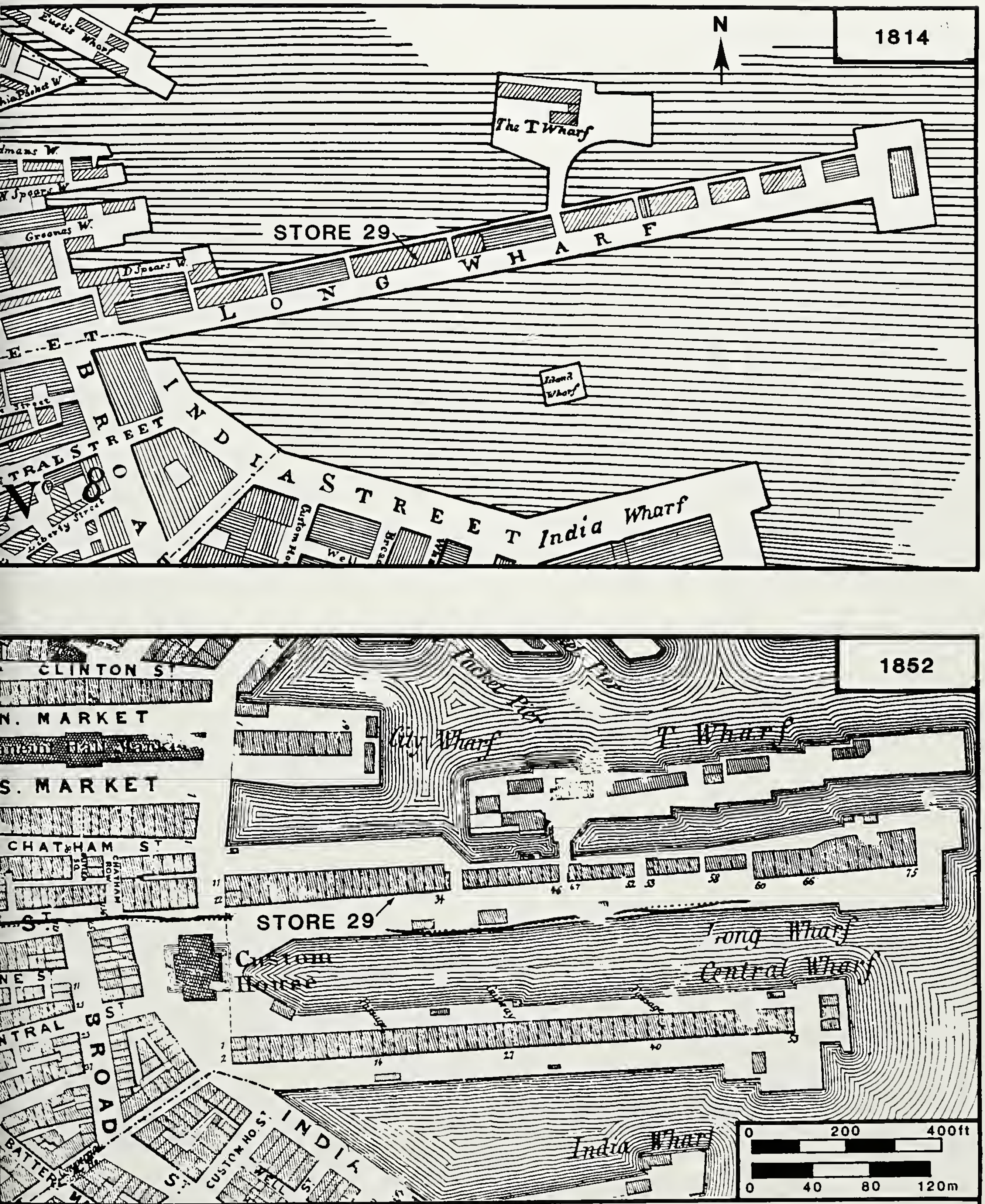

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Figure 5.5 Approximate Location of Store 29 (TC01 Trench A) on Hales 1814 and Slatter and Callan 1852

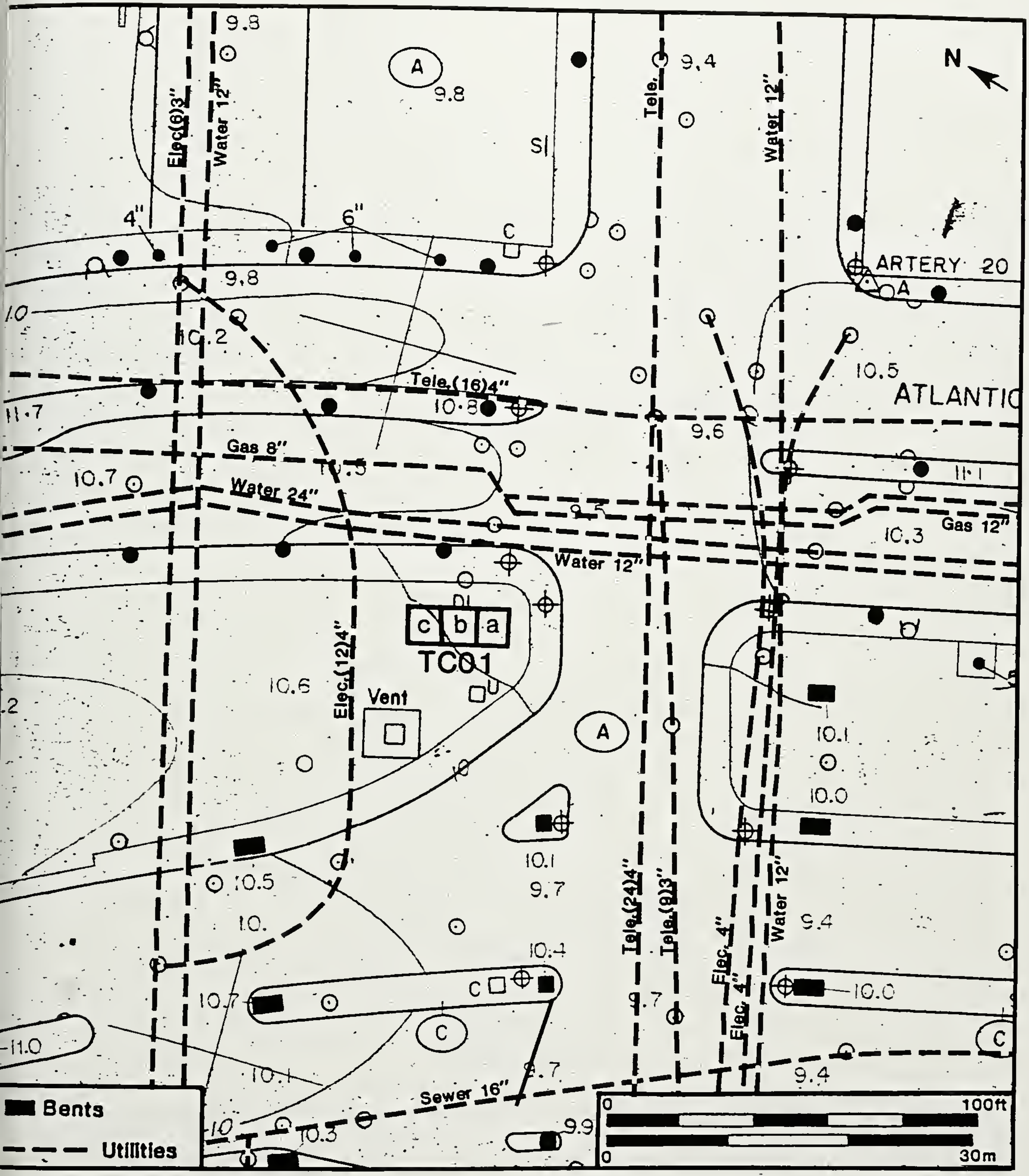

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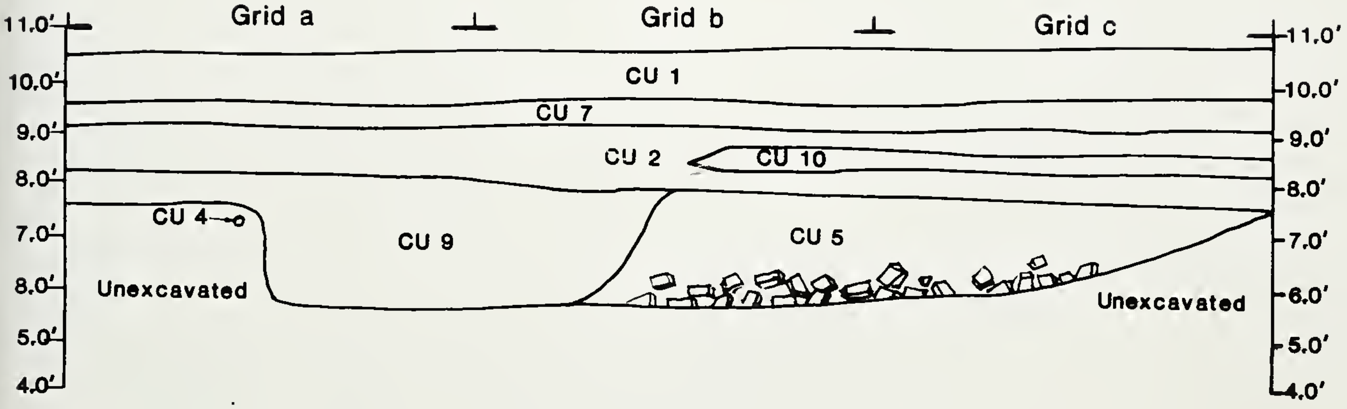
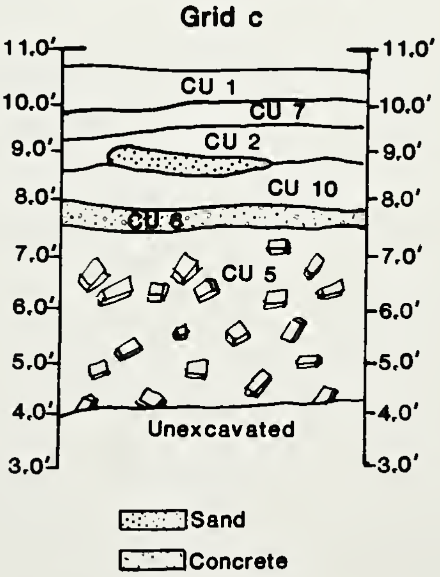
Figure 5.6 TC01. Modern Plan Showing Location of Test Trench

A. **West Wall Profile**



B. **North Wall Profile**



I-90/I-93 Project Phase II Archaeology Office of Public Archaeology Boston University	Figure 5.7 TC01. Profiles of West Wall of Grids a, b, and c and North Wall of Grid c

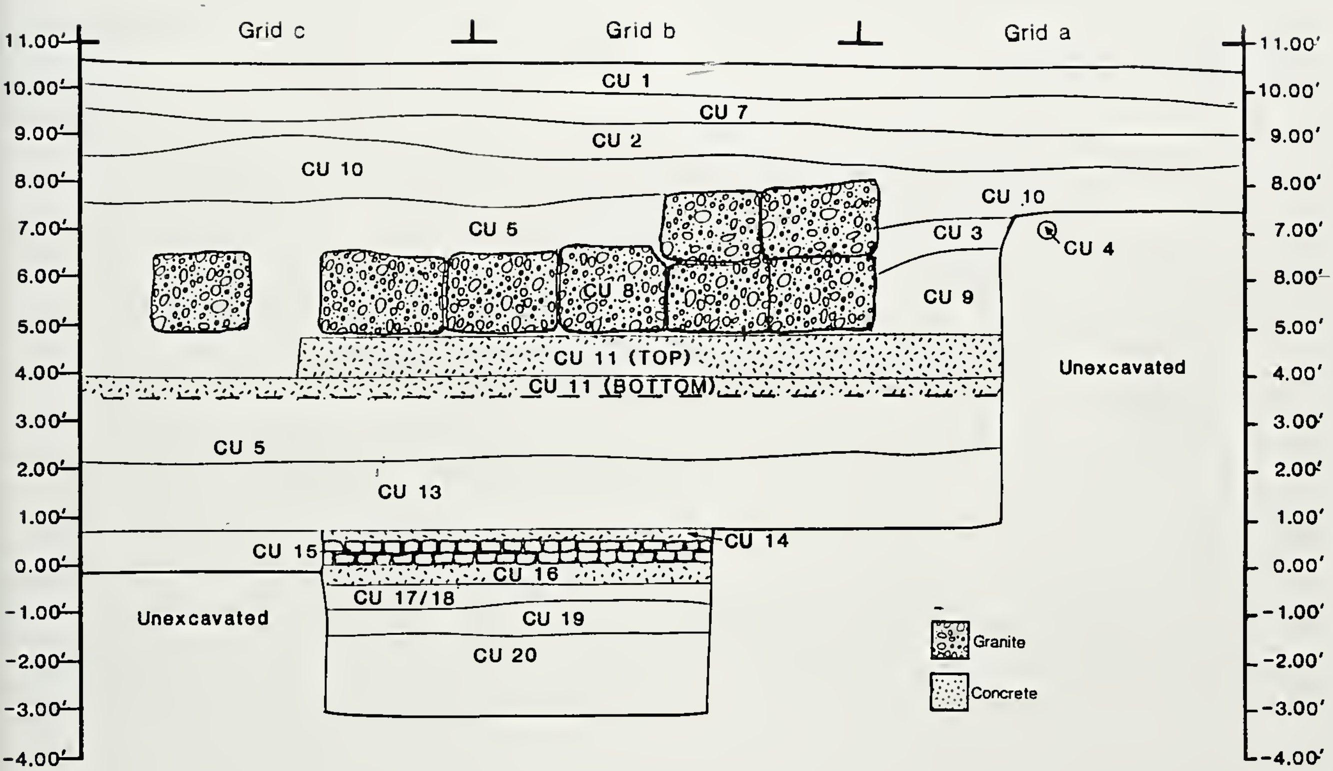


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Figure 5.8 TC01. Profile of East Wall of Trench

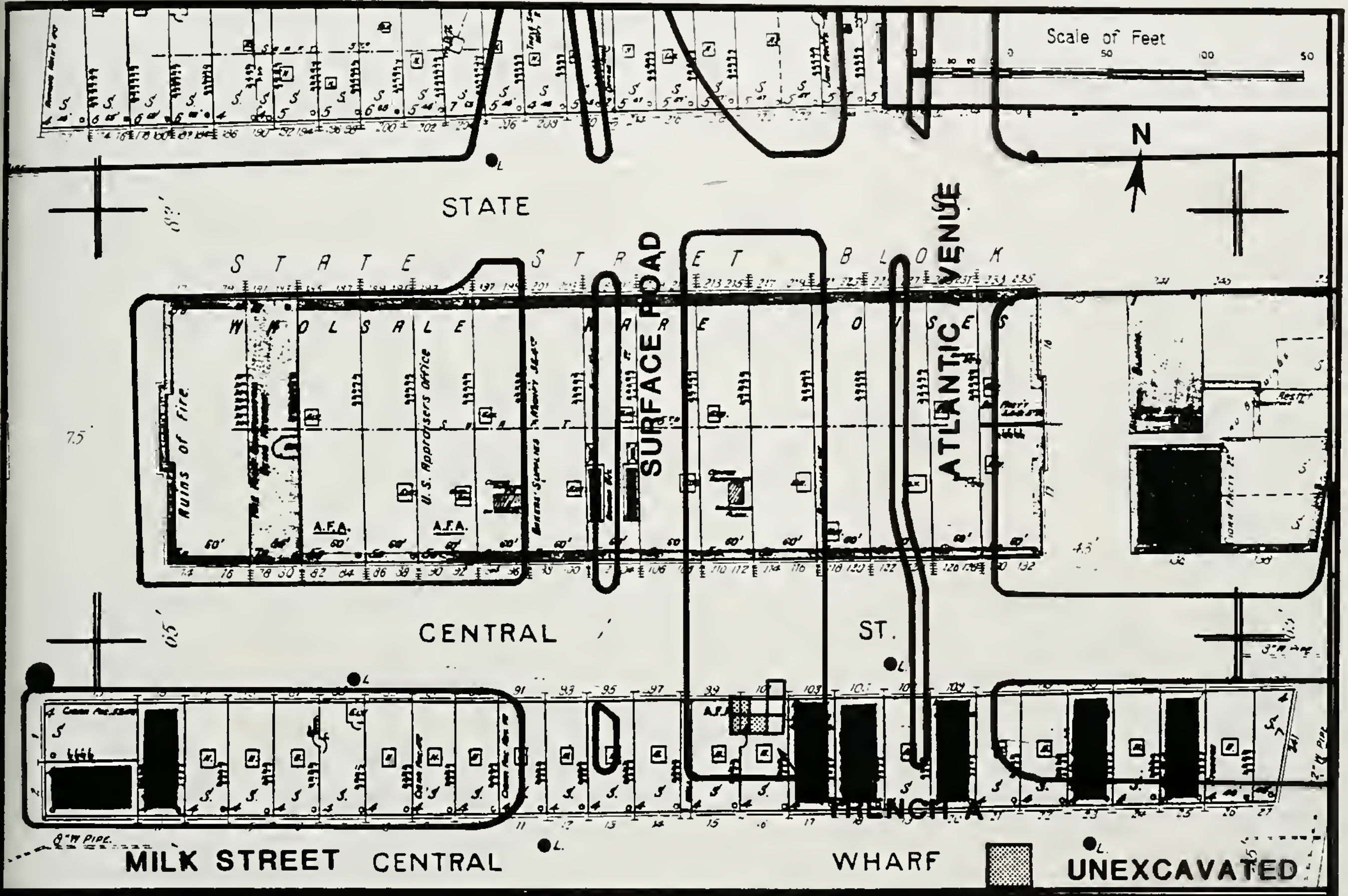

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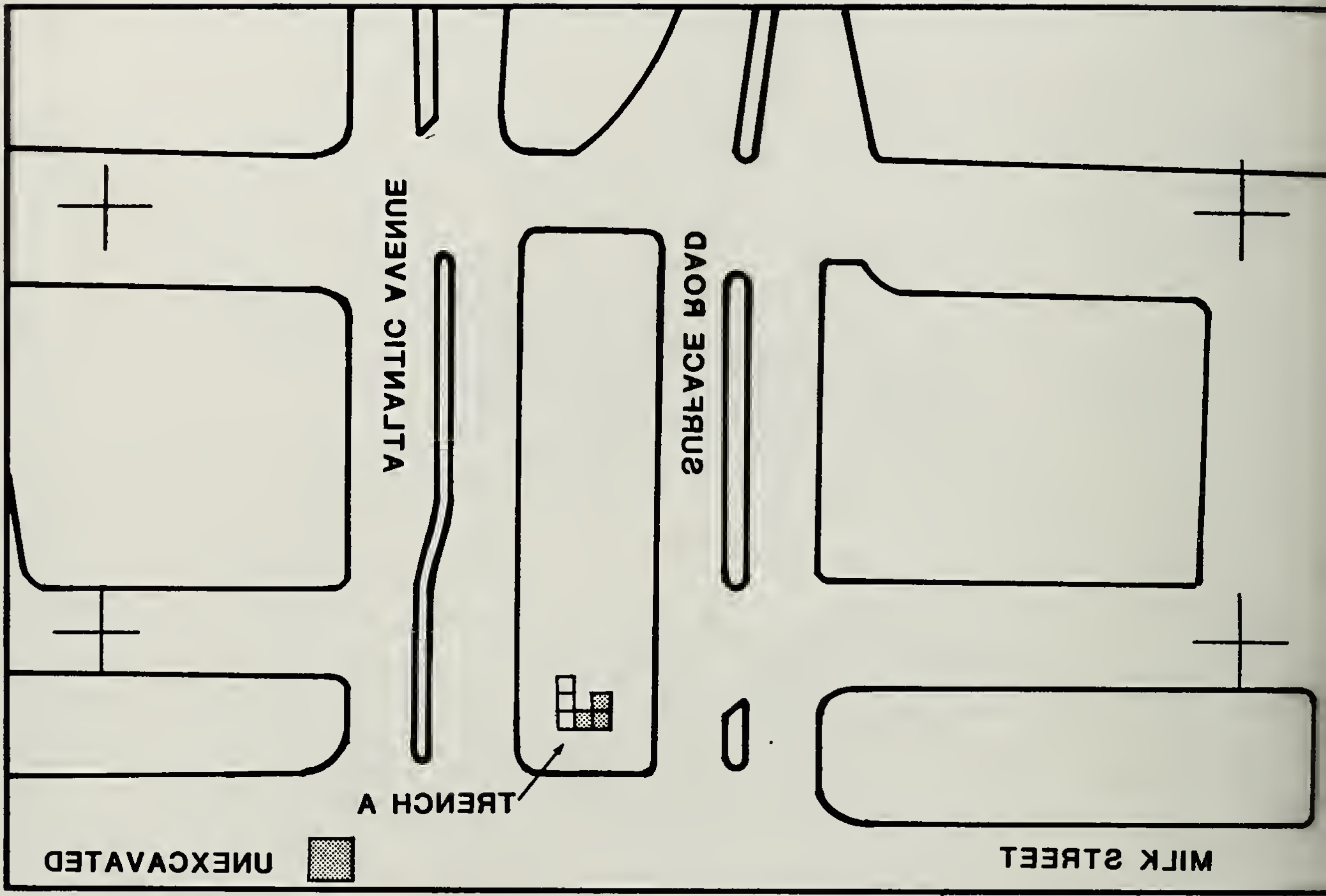
Figure 6.1 Modern Plan of Block TC02 over Historic Map of TC02 Area (Sanborn 1895; Pl. 35) Showing Location of Trench A


ATLANTIC AVENUE
SURFACE ROAD
TRENCH A
UNEXCAVATED
MILK STREET

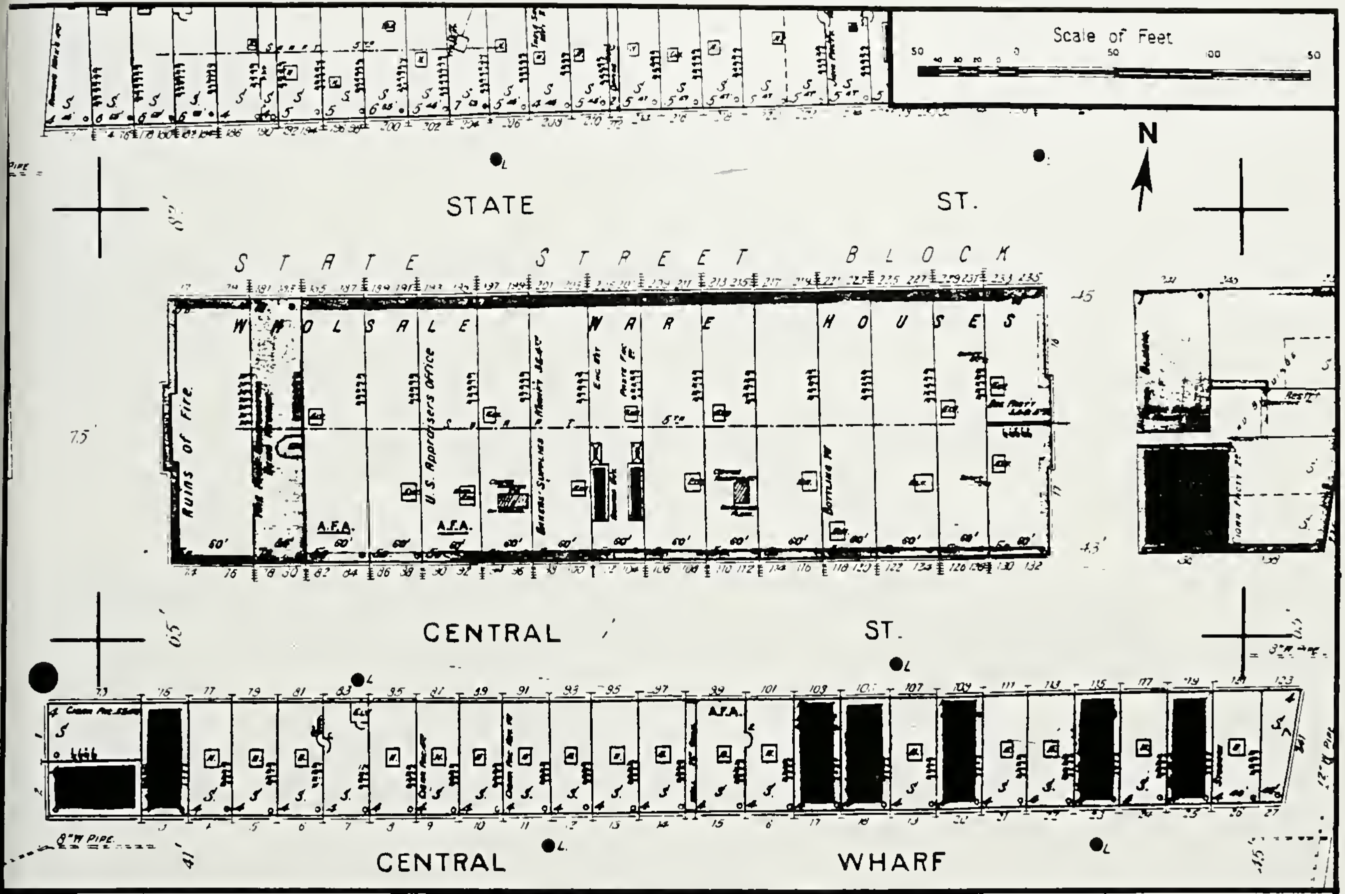


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Figure 6.1 Modern Plan of Block TC02 over Historic Map of TC02 Area (Sanborn 1895; Pl. 35) Showing Location of Trench A

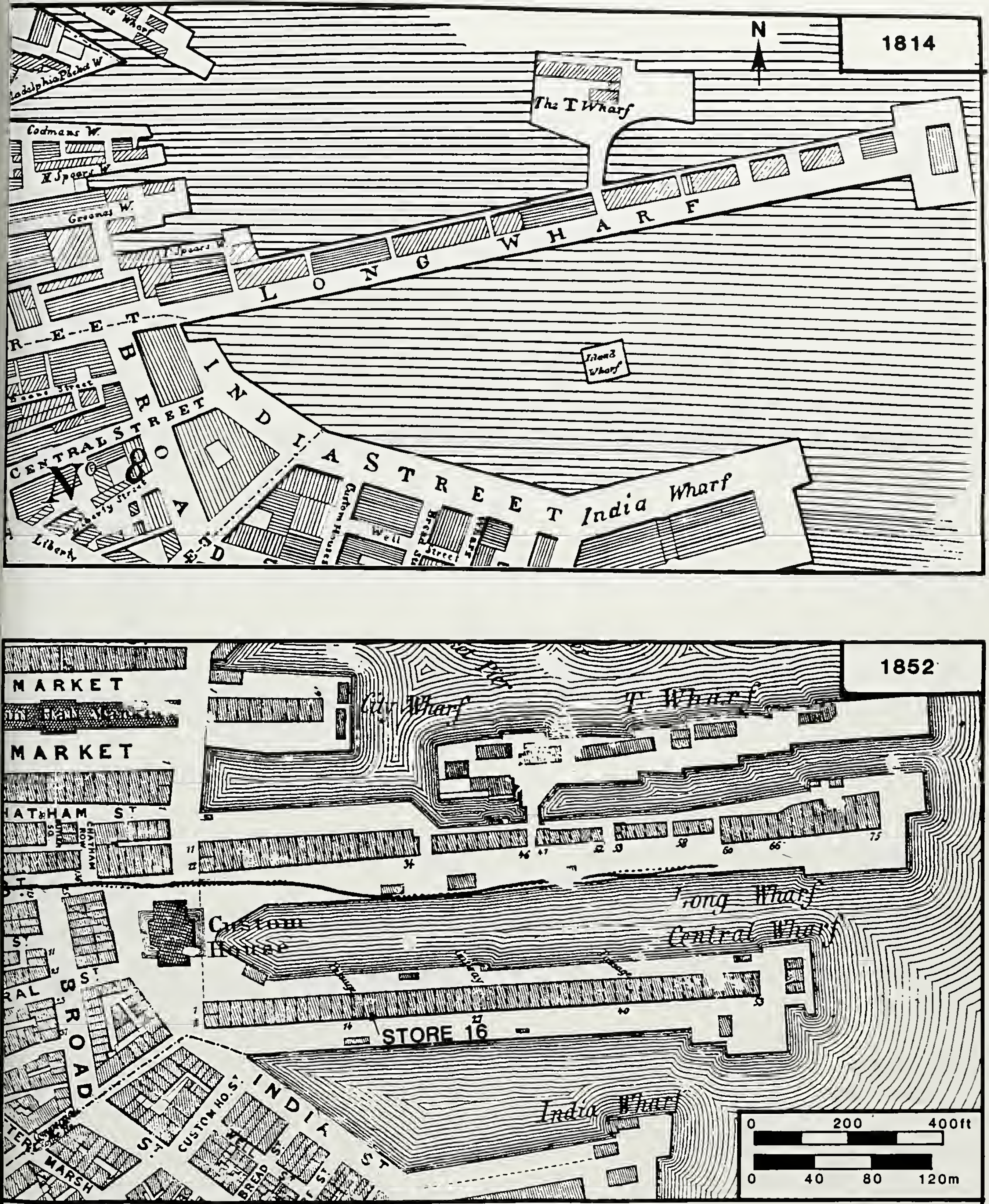

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Figure 6.2 Location of Central Wharf (TC02) from Hales 1814 and Slatter and Callan 1852

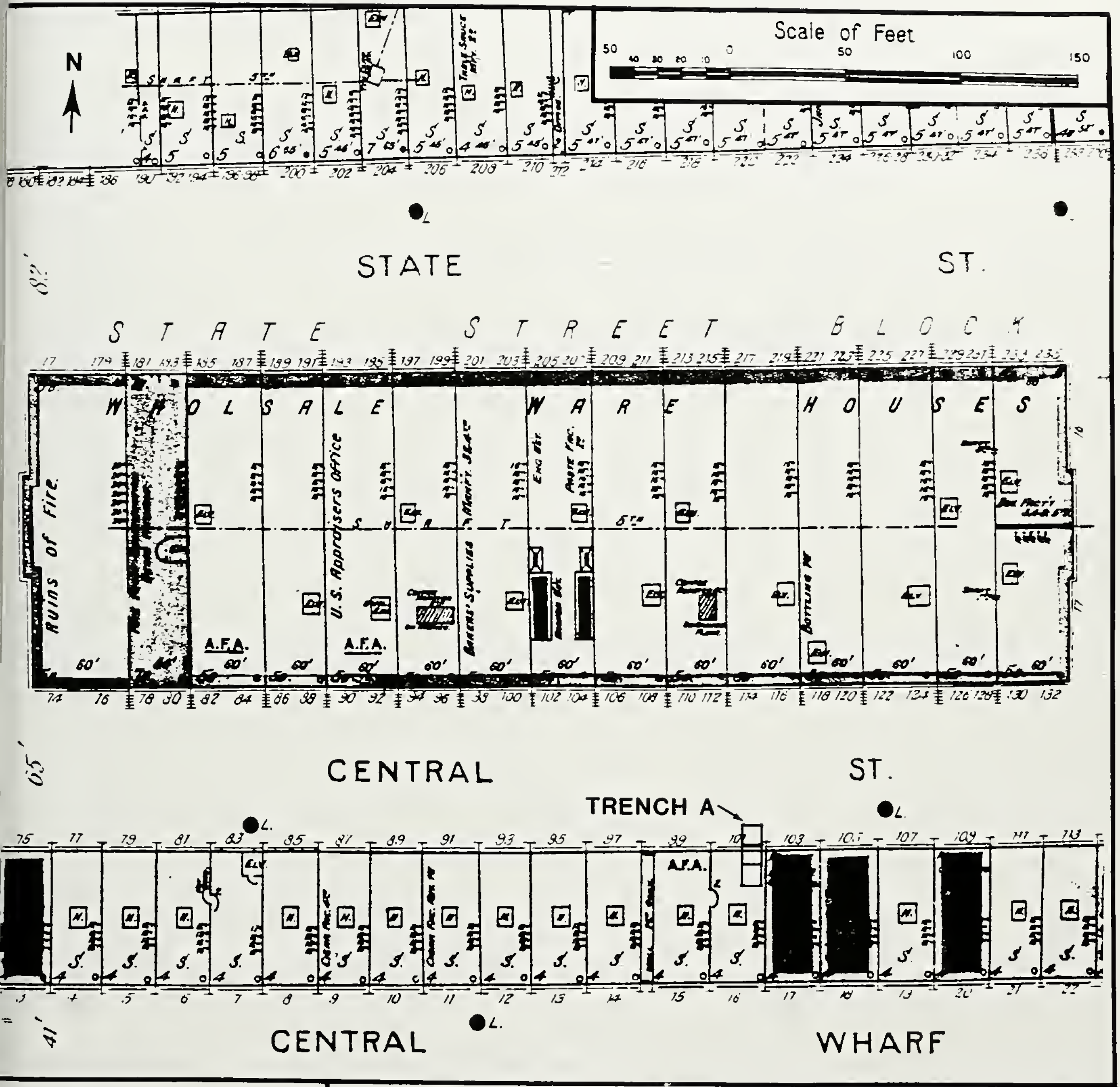

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Figure 6.3 TC02 Trench A on Sanborn 1895 (Pl. 35)

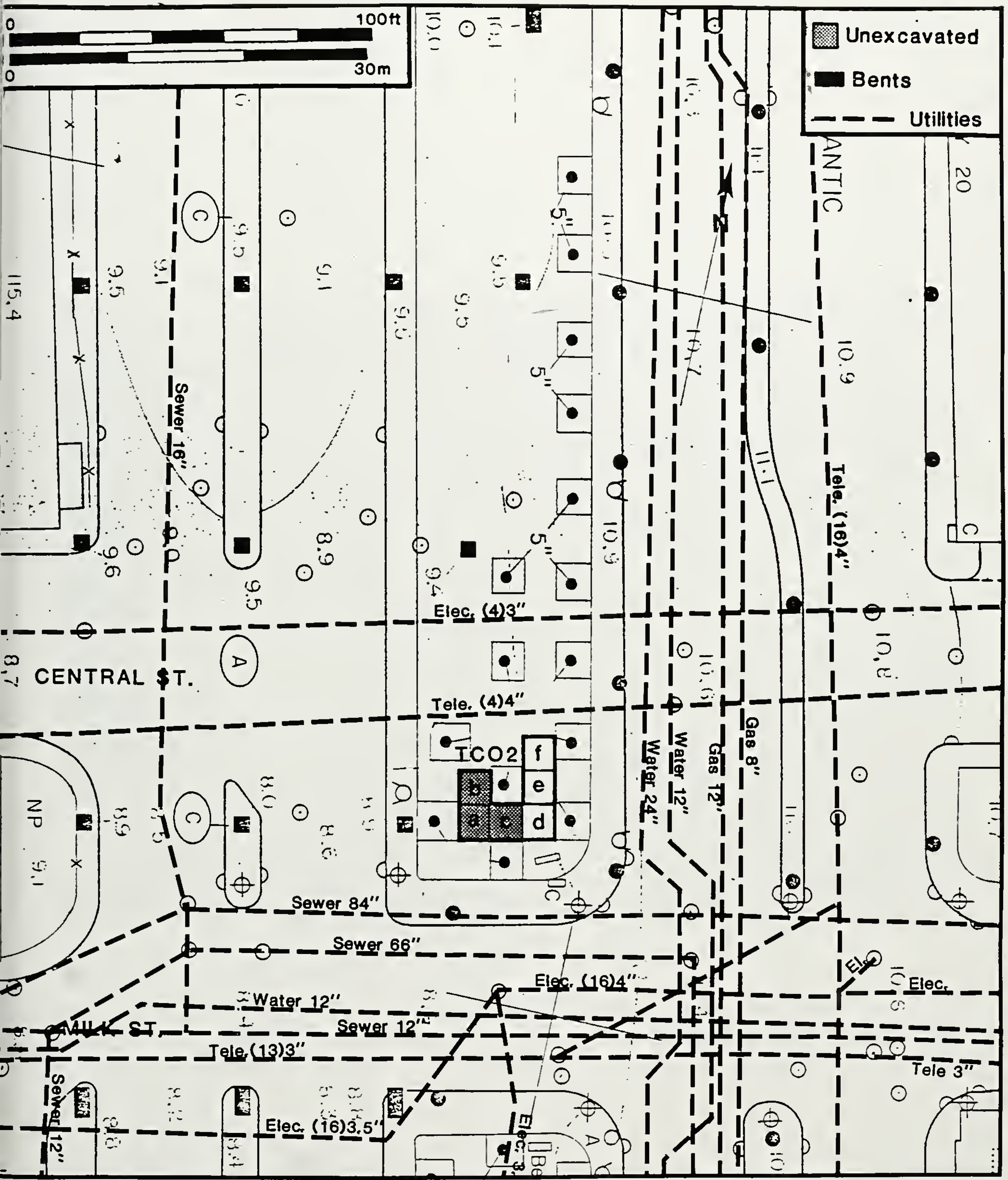

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Figure 6.4 TC02. Modern Plan Showing Location of Test Trench

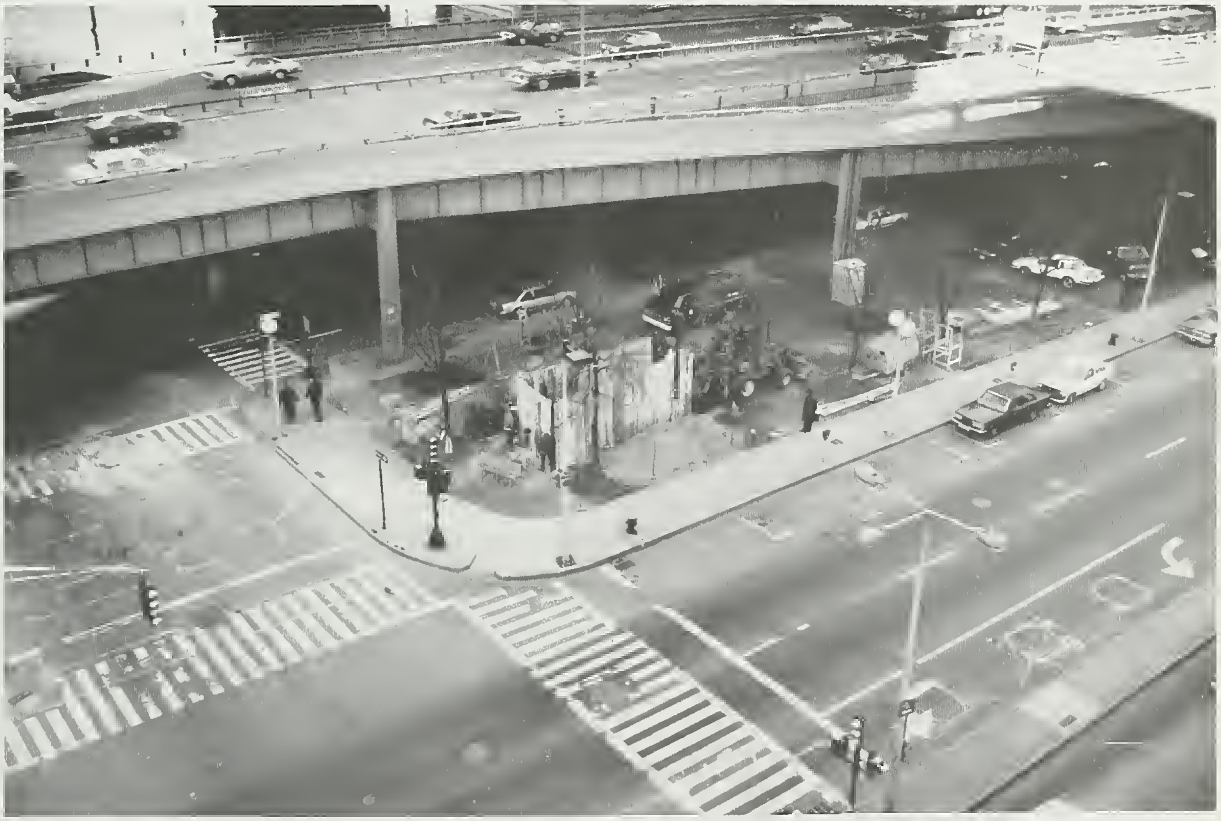

Figure 6.5 View of TC02 during Excavation, Looking Northwest

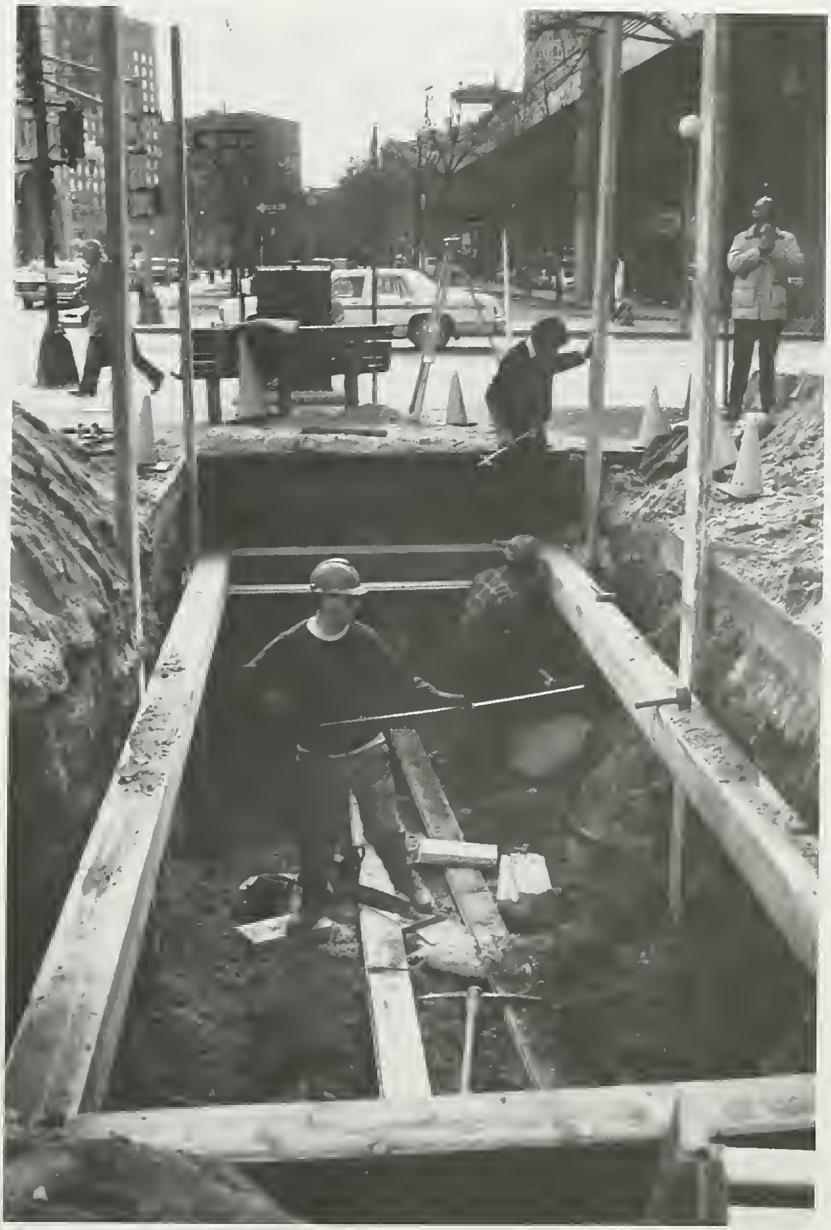

Figure 6.6 View of TC02 Showing Installation of Shoring

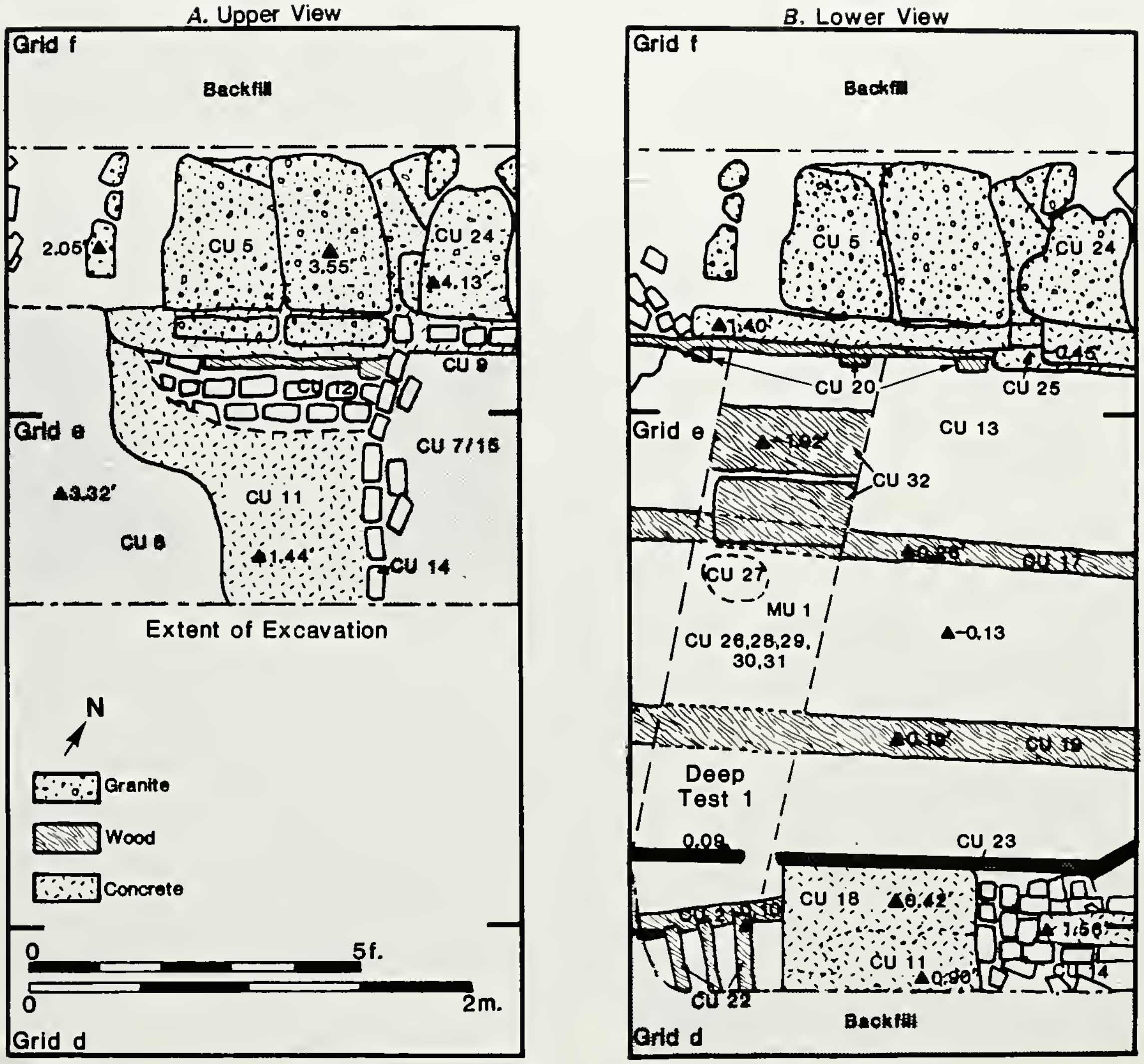

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Figure 6.7 TC02. Plans of Grids f, e and d

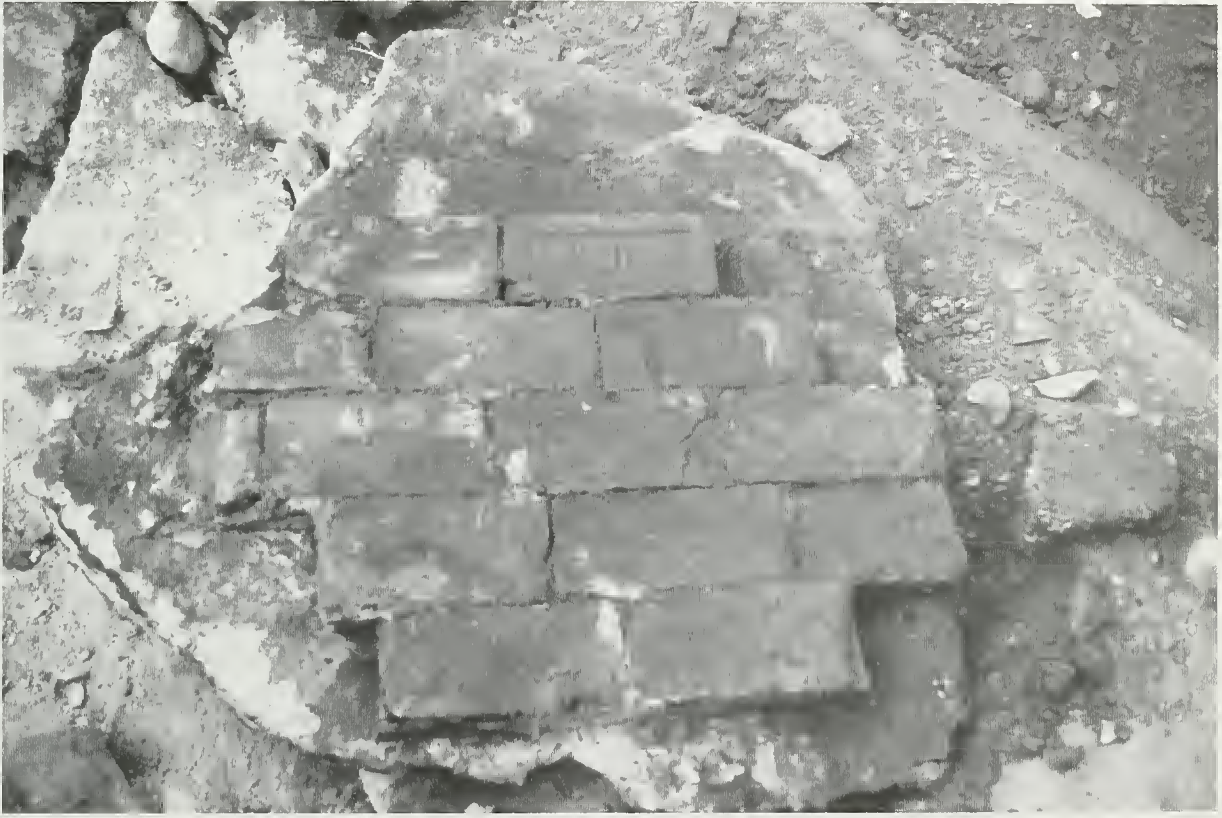

Figure 6.8 TC02. Photograph of Basement Floor (Bricks Attached to Cement)

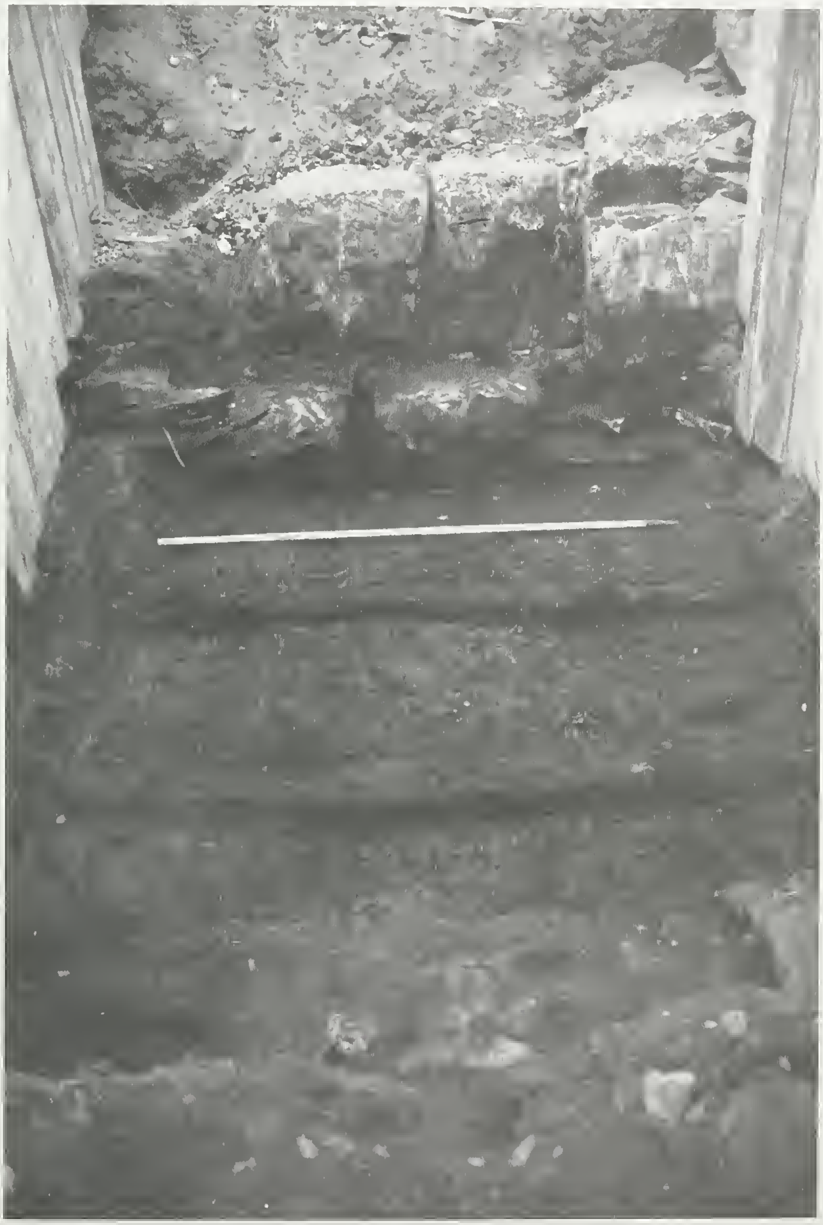

Figure 6.9 TC02. Photograph Showing Wood Beams (CU 17, 19) below Cellar. View Looking North, with Foundation (CU 5/24) in Background

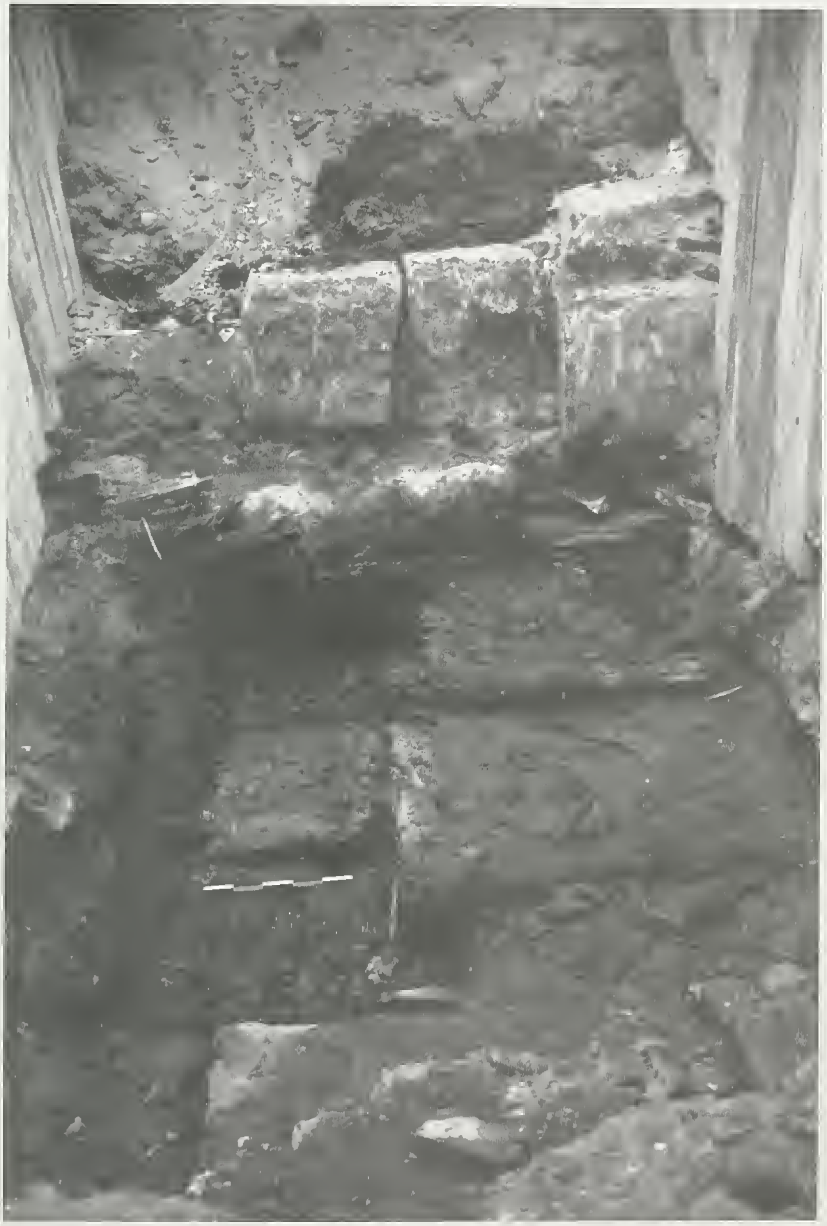

Figure 6.10 Photograph Showing Wood Boards (CU 32) below Wood Beams (CU 17, 19)

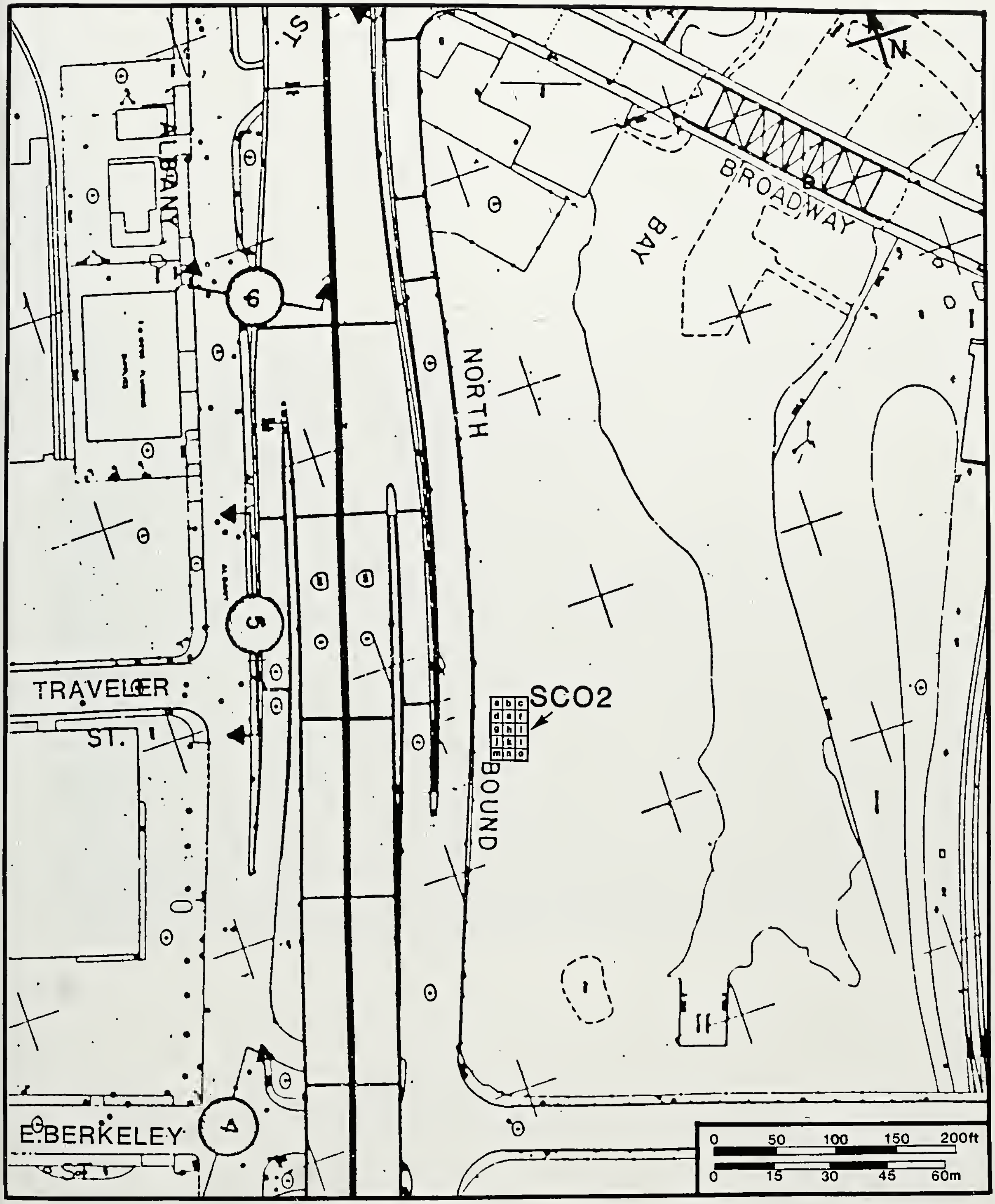

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Figure 7.1 Modern Map of Southern Part of Block SC02 Showing Location of Test

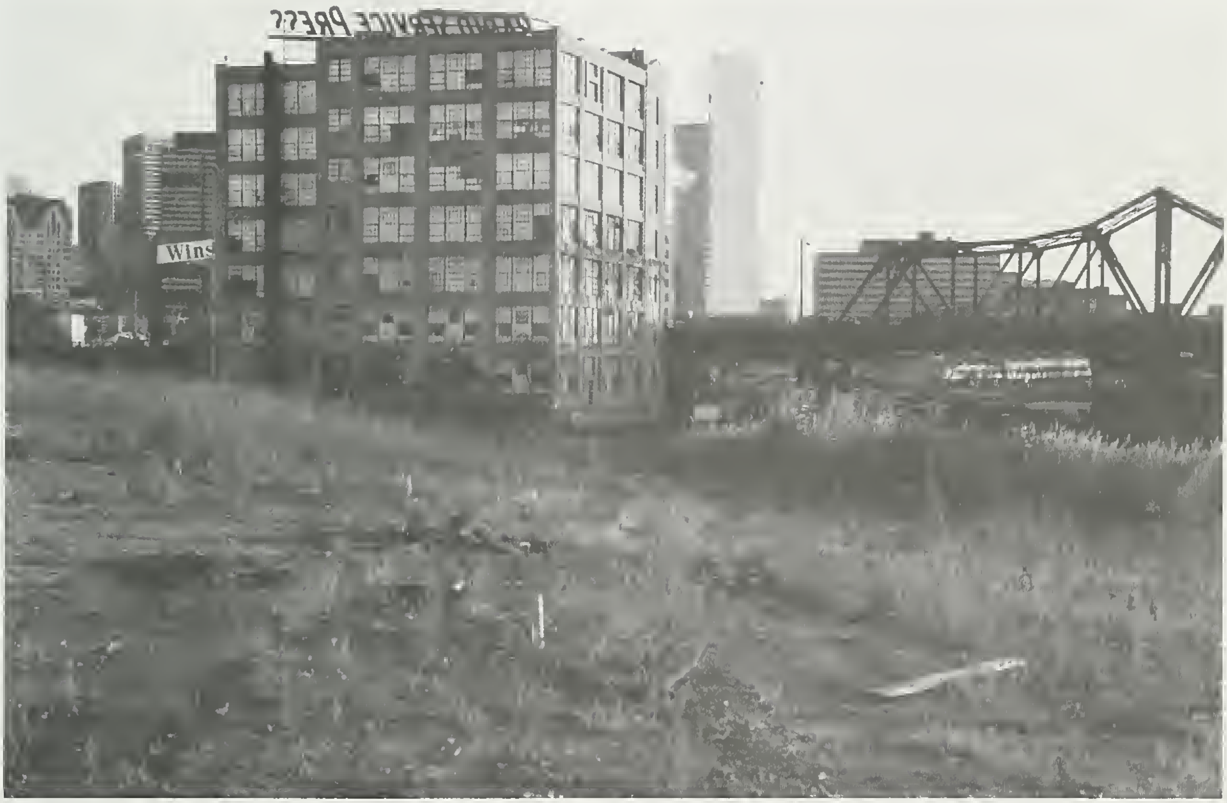

Figure 7.2 View of SC02 Testing Area before Excavation, Looking Northwest. Broadway Bridge in Background

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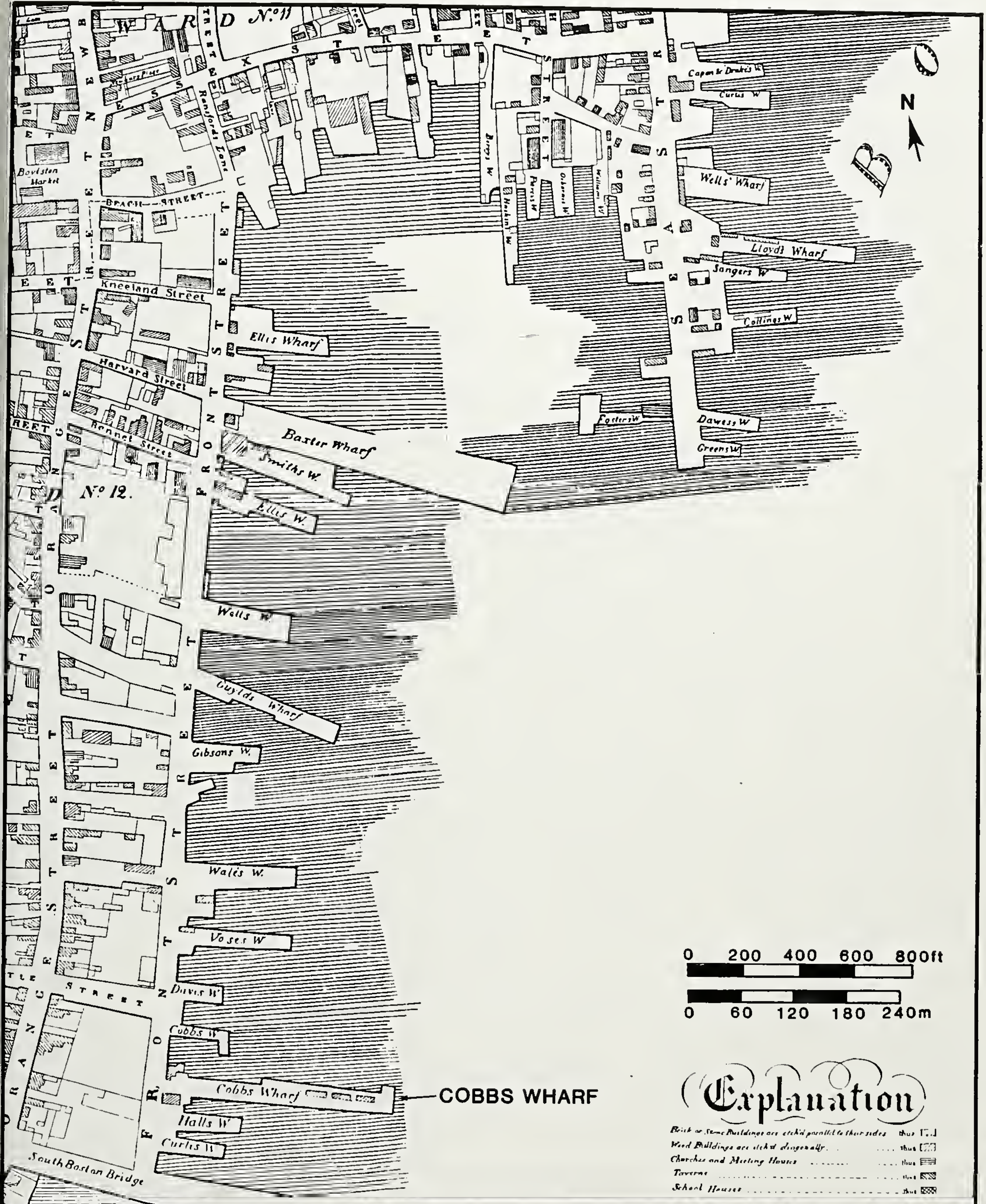

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Figure 7.3 South Cove from Hales 1814

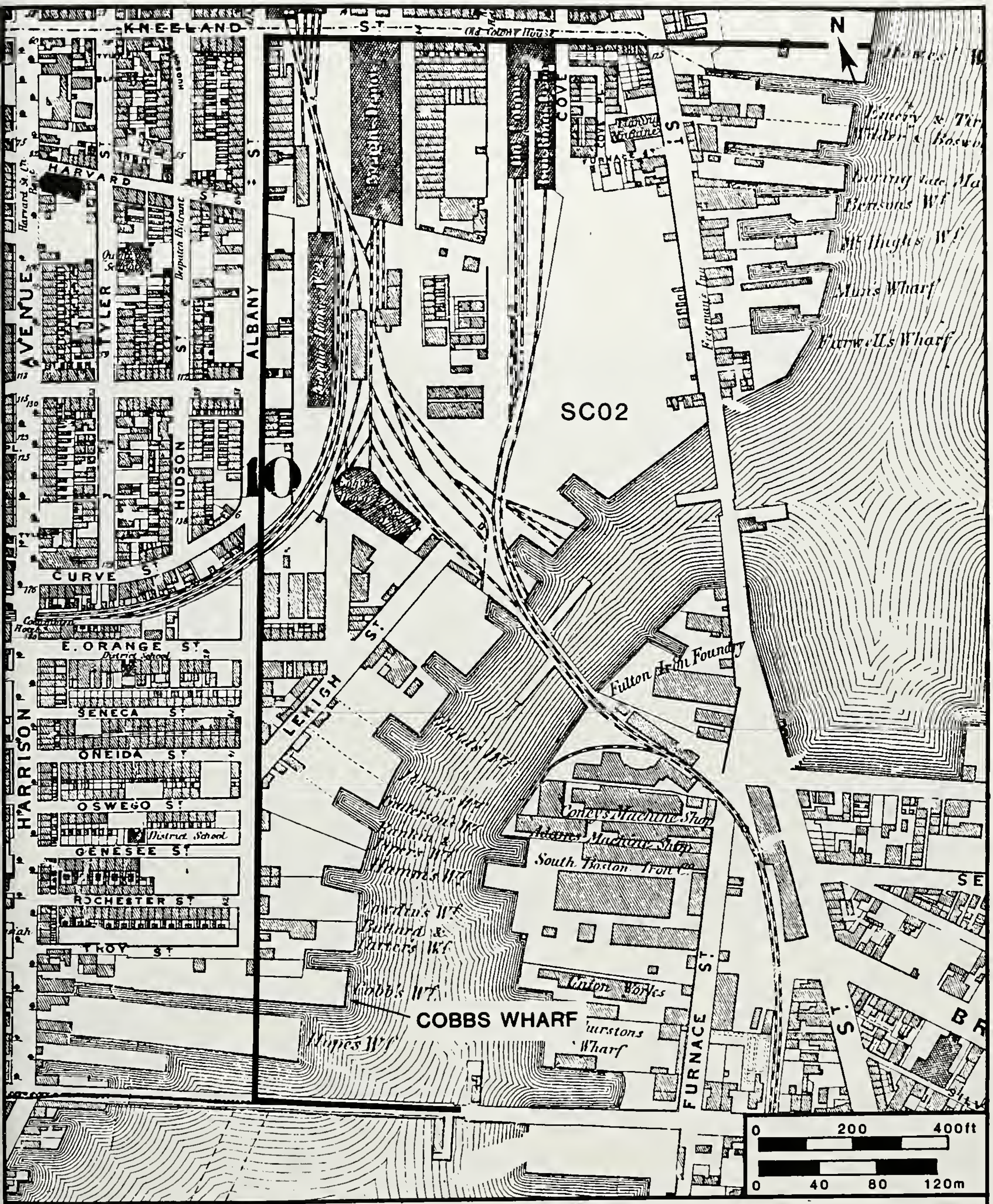

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Figure 7.4 South Cove from Slatter and Callan 1852

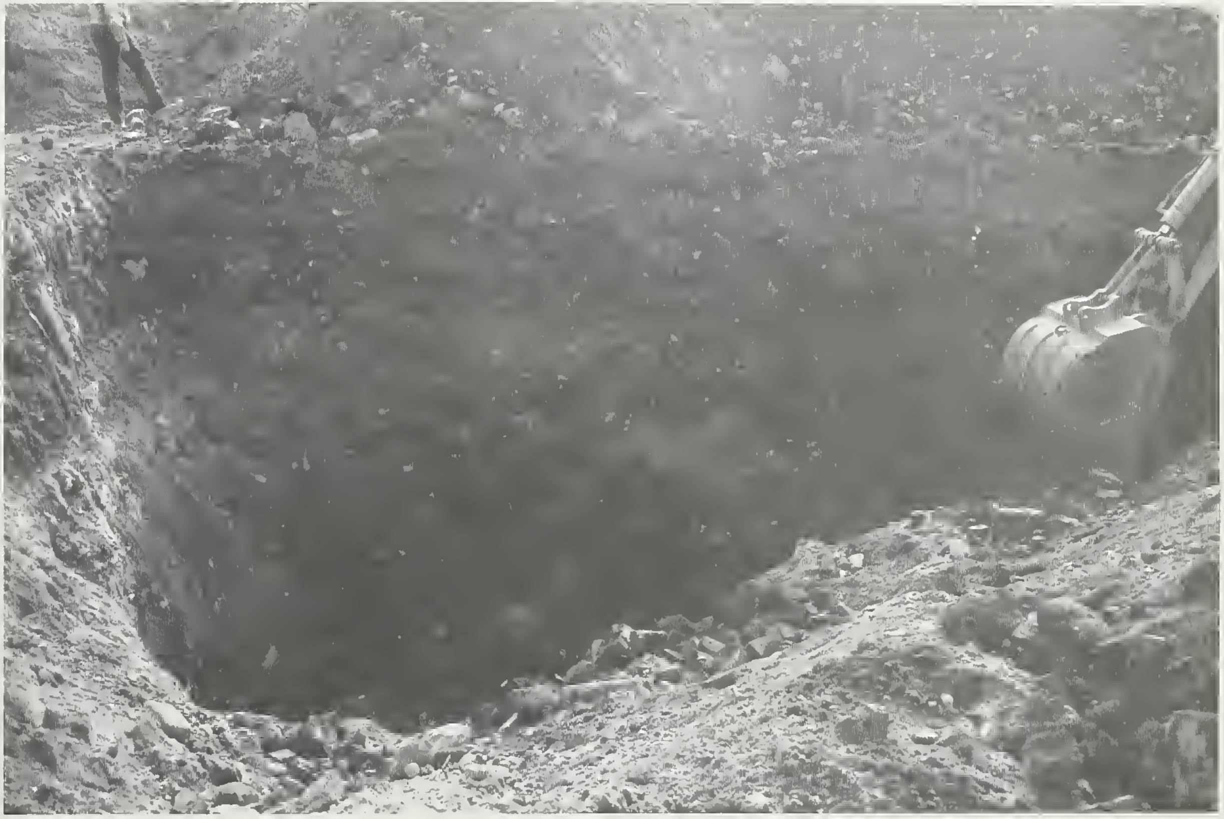
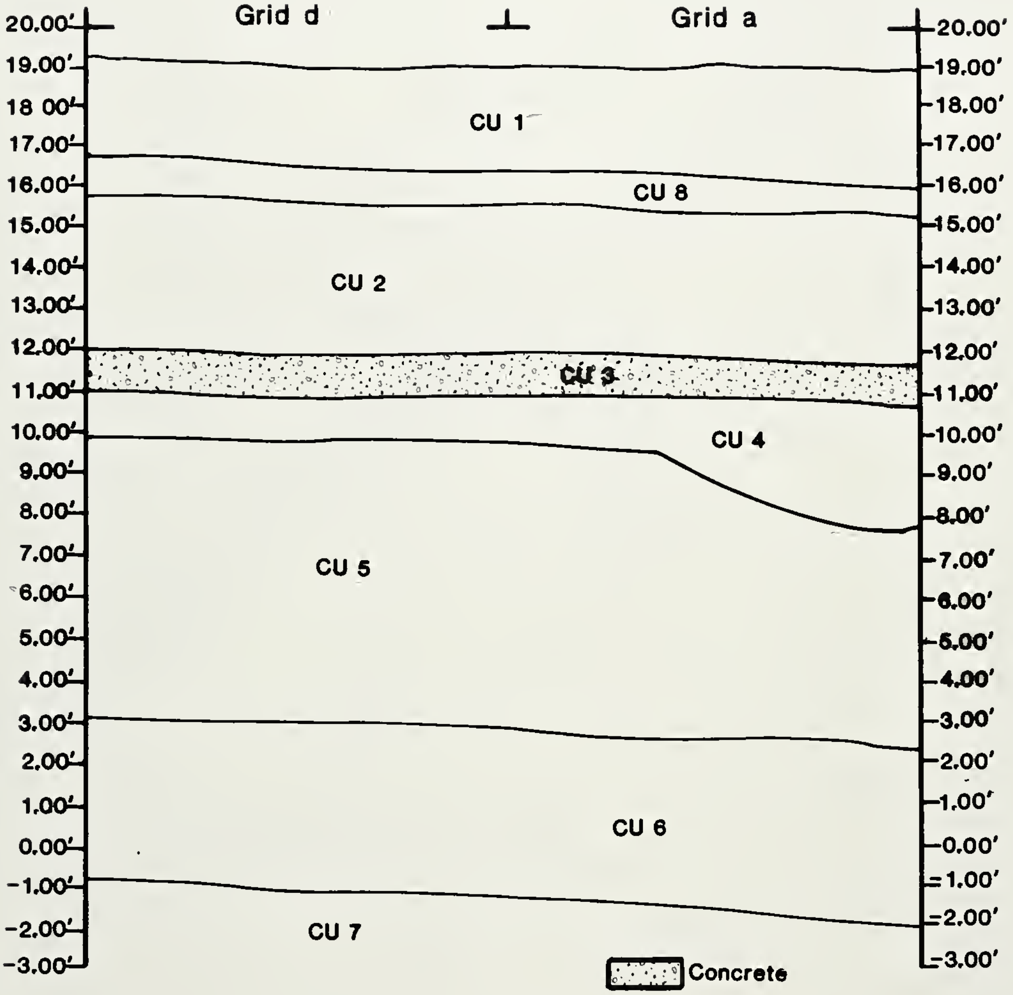


Figure 7.5 Deep Excavation in SC02



I-90/I-93 Project Phase II Archaeology Office of Public Archaeology Boston University	Figure 7.6 SC02. Profile of West Wall of Grids a and d

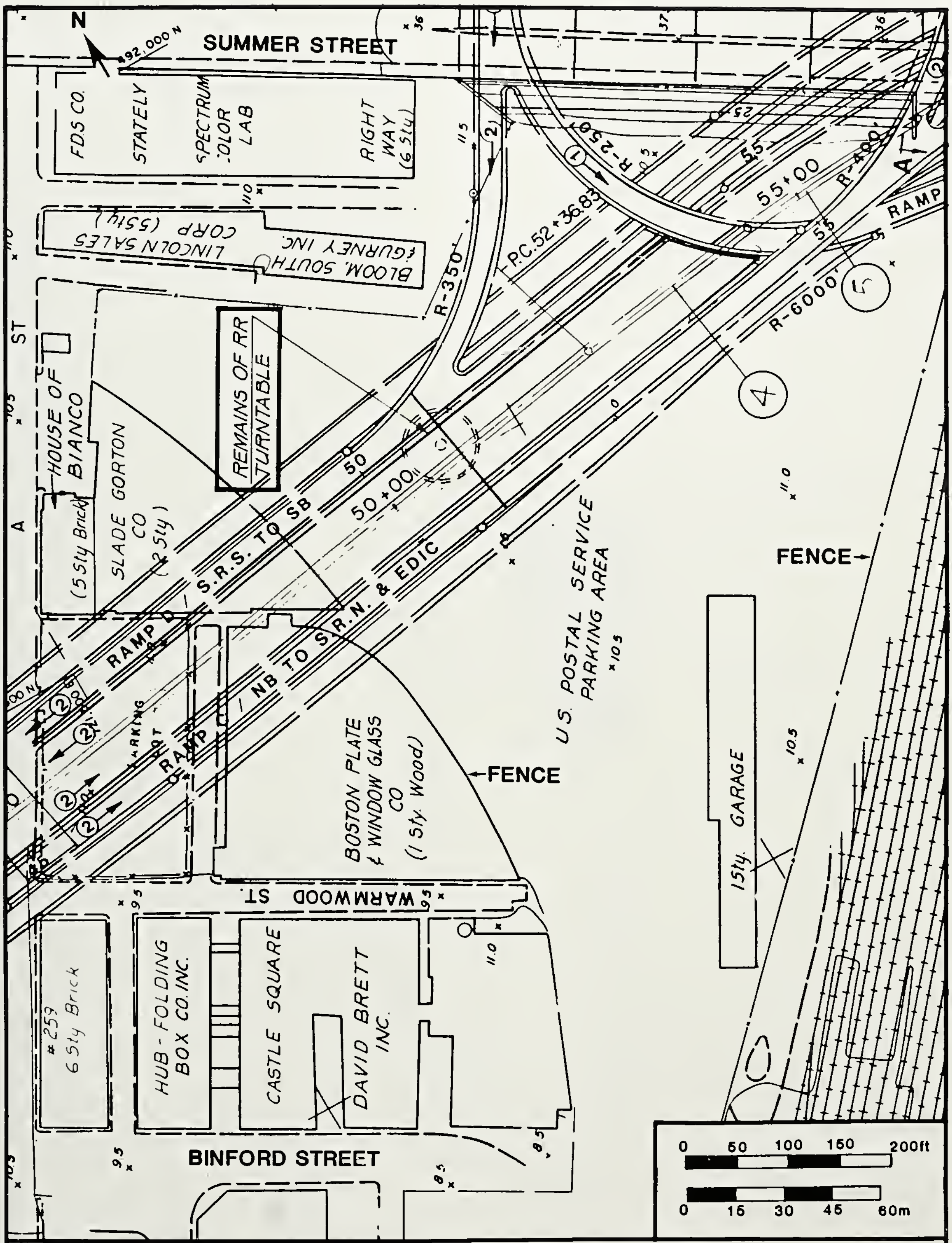


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Figure 8.1 Modern Map of Block SB10 Showing Location of Railroad Turntable

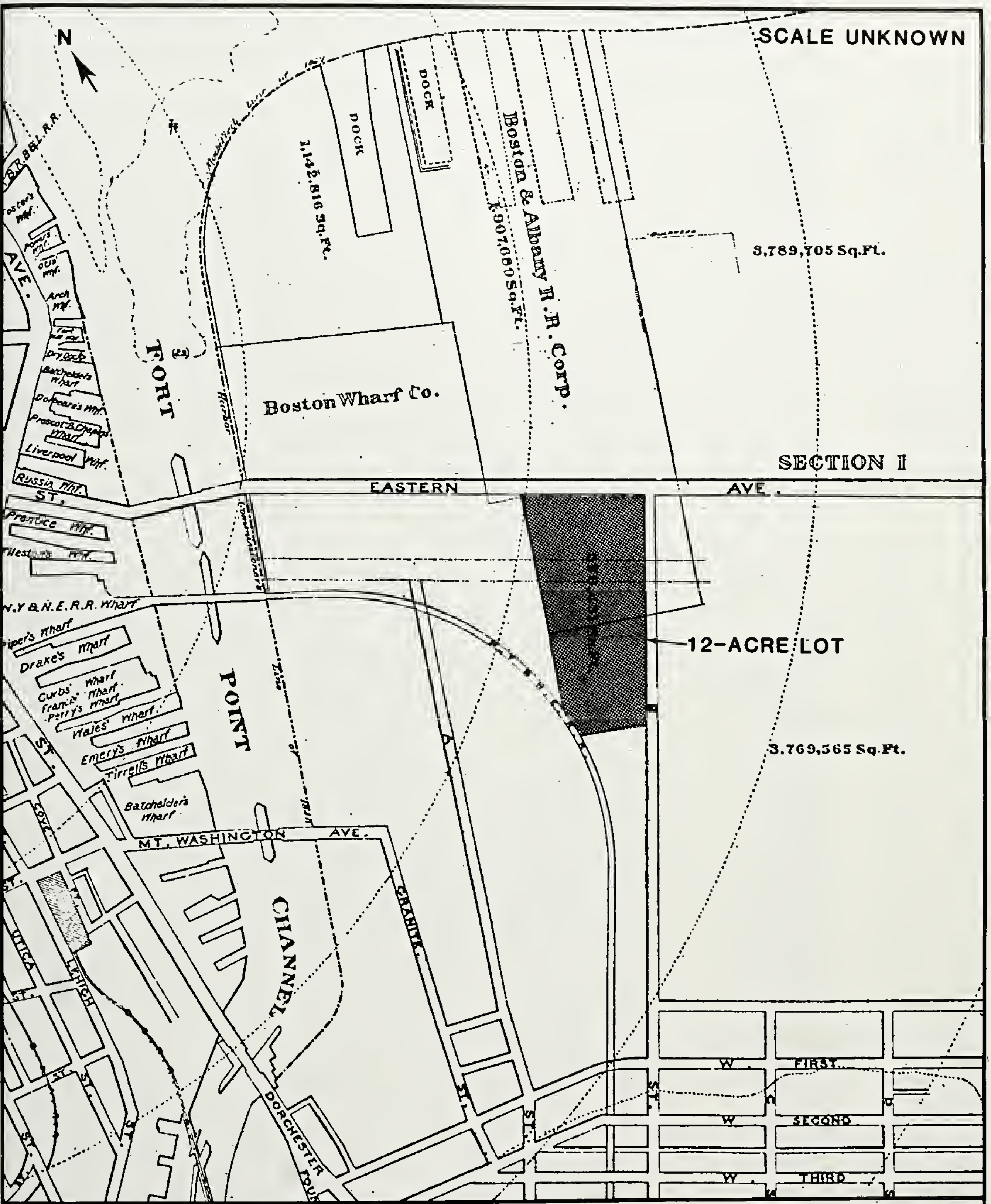

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Figure 8.2 South Boston Flats from Massachusetts 1875

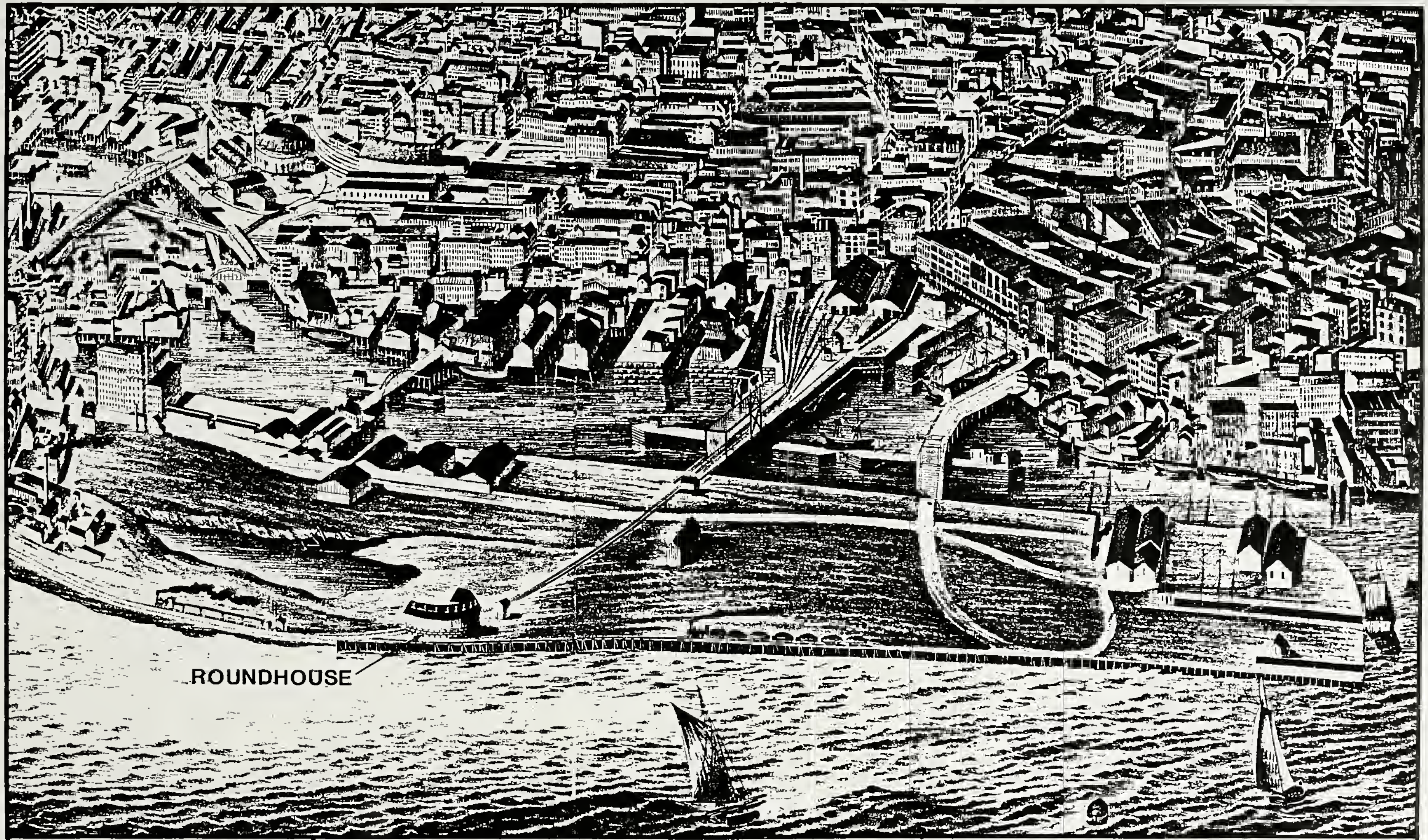

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Figure 8.3 Bird's Eye View of South Boston Flats (foreground) from Rowley 1880

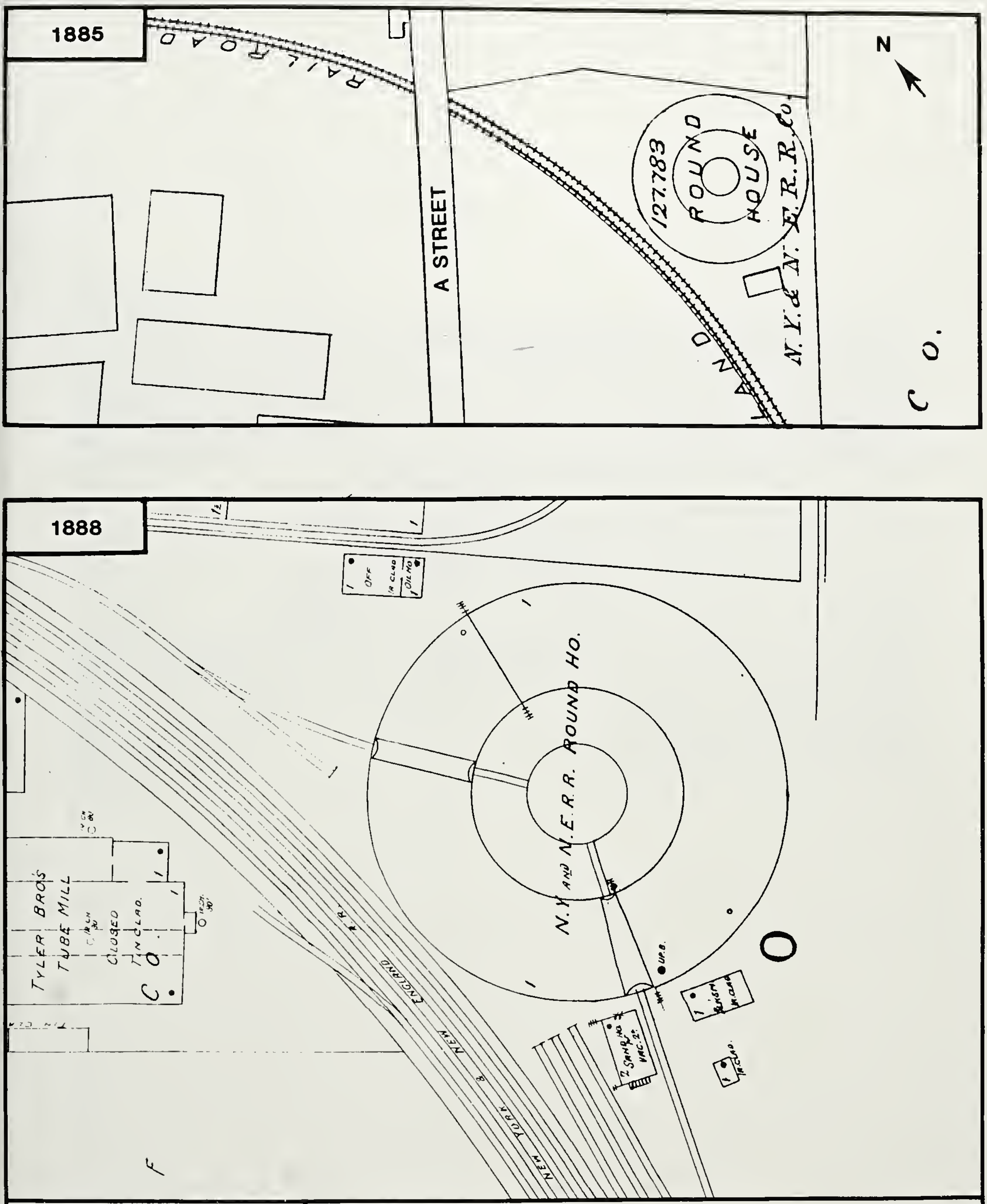

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Figure 8.4 Engine House in SB10 from Bromley 1885 (Pl. K) and Sanborn 1888 (Pl. 108)

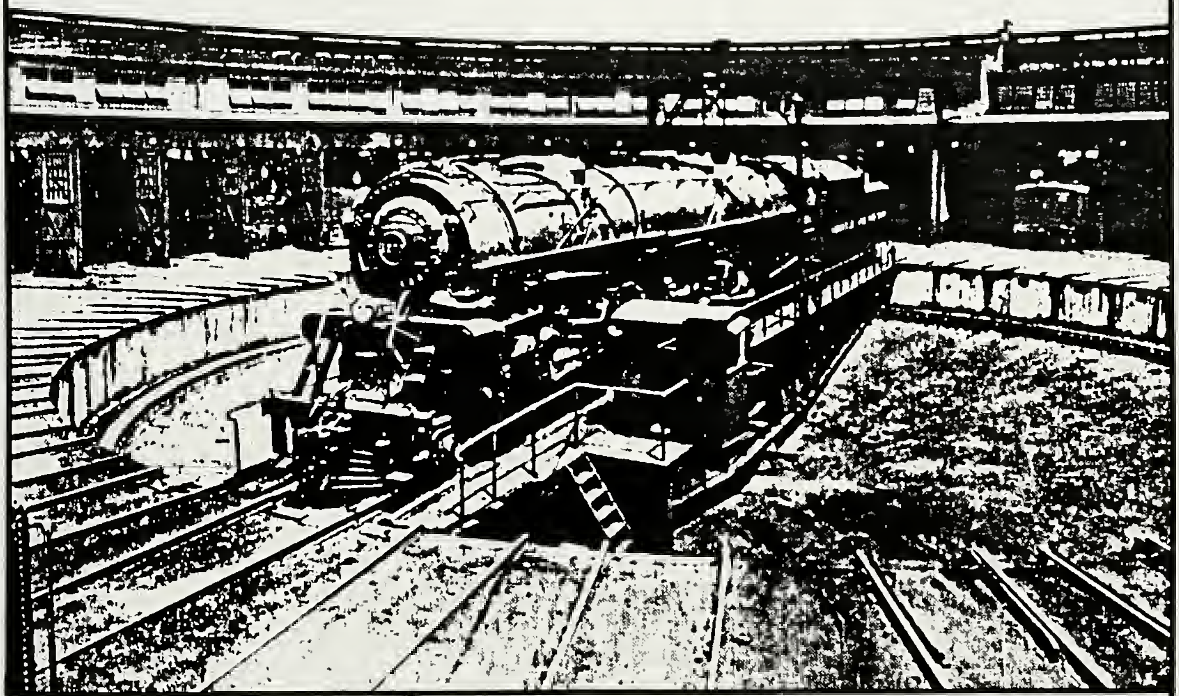

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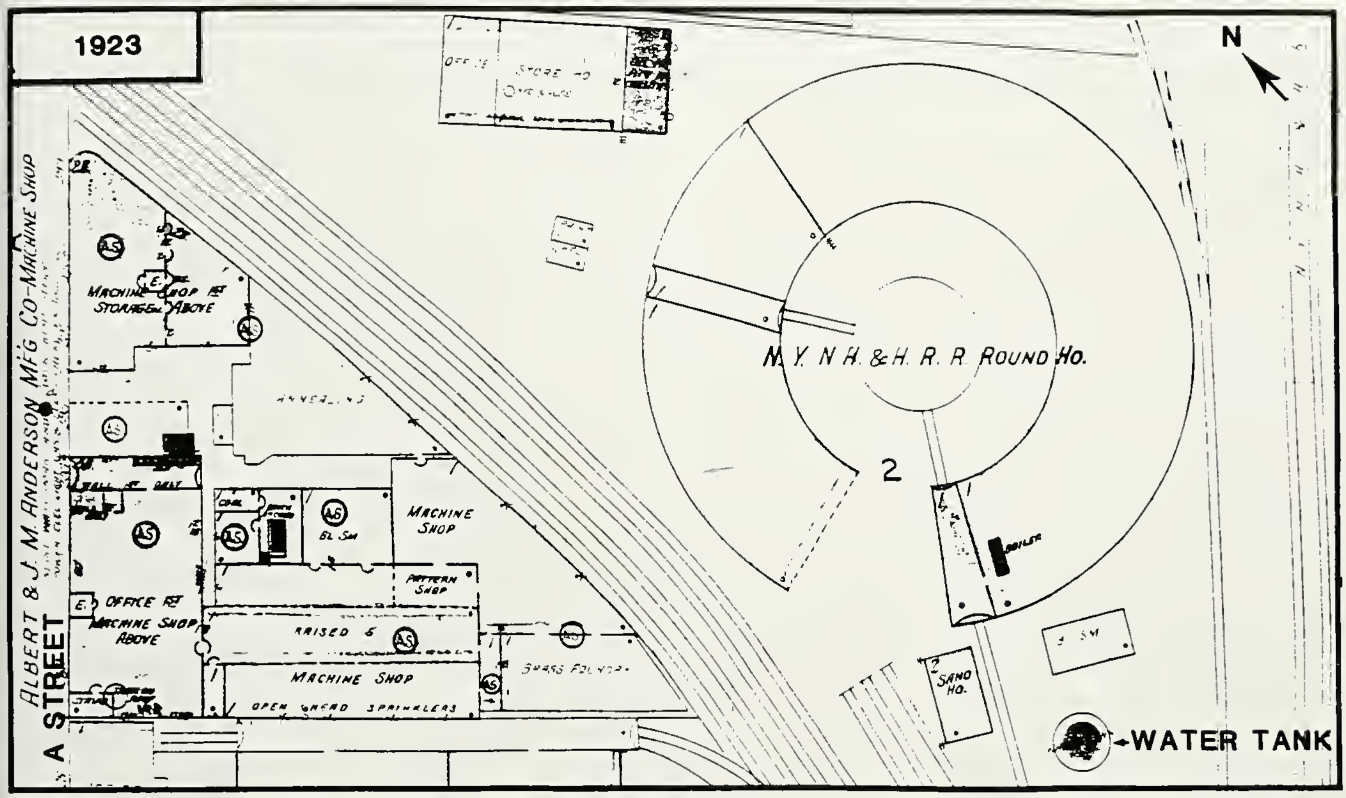
Figure 8.5 Railroad Turntable and Roundhouse (Van Metre 1950: 360)


1923
N
ALBERT & J. M. ANDERSON MFG CO-MACHINE SHOP
A STREET
MACHINE SHOP 1ST STORAGE 2ND ABOVE
A.S.
OFFICE 1ST MACHINE SHOP ABOVE
MACHINE SHOP
PATTERN SHOP
RAISED 5
MACHINE SHOP
OPEN SHED SPRINKLERS
BRASS FOUNDRY
STORE HO
OFFICE
N.Y. N.H. & H. R. R. ROUND HO.
2
BOILER
SAND HO.
WATER TANK

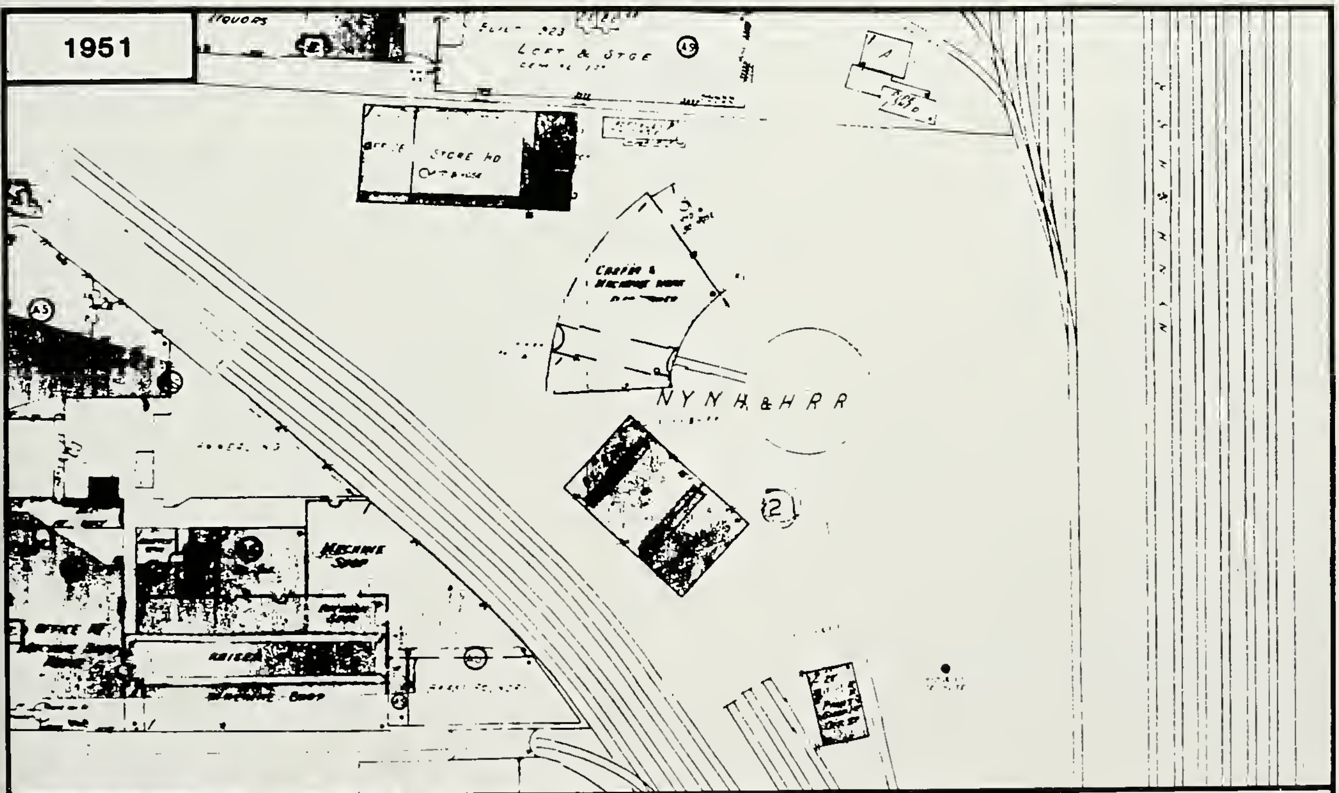


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Figure 8.6 Engine House in SB10 from Sanborn 1923 (Pl. 409) and Sanborn 1951 (Pl. 409)

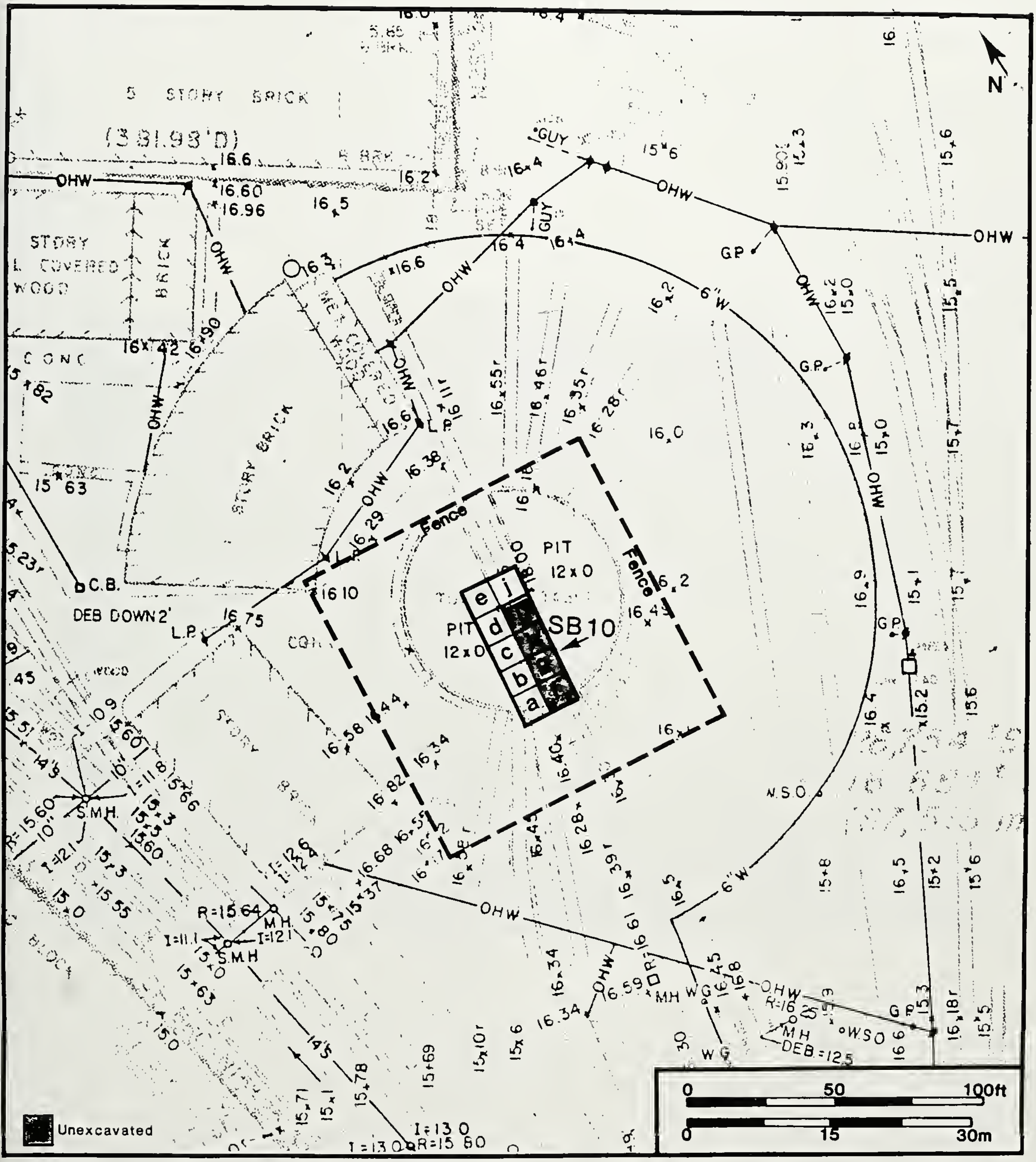

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Figure 8.7 1978 Map of SB10

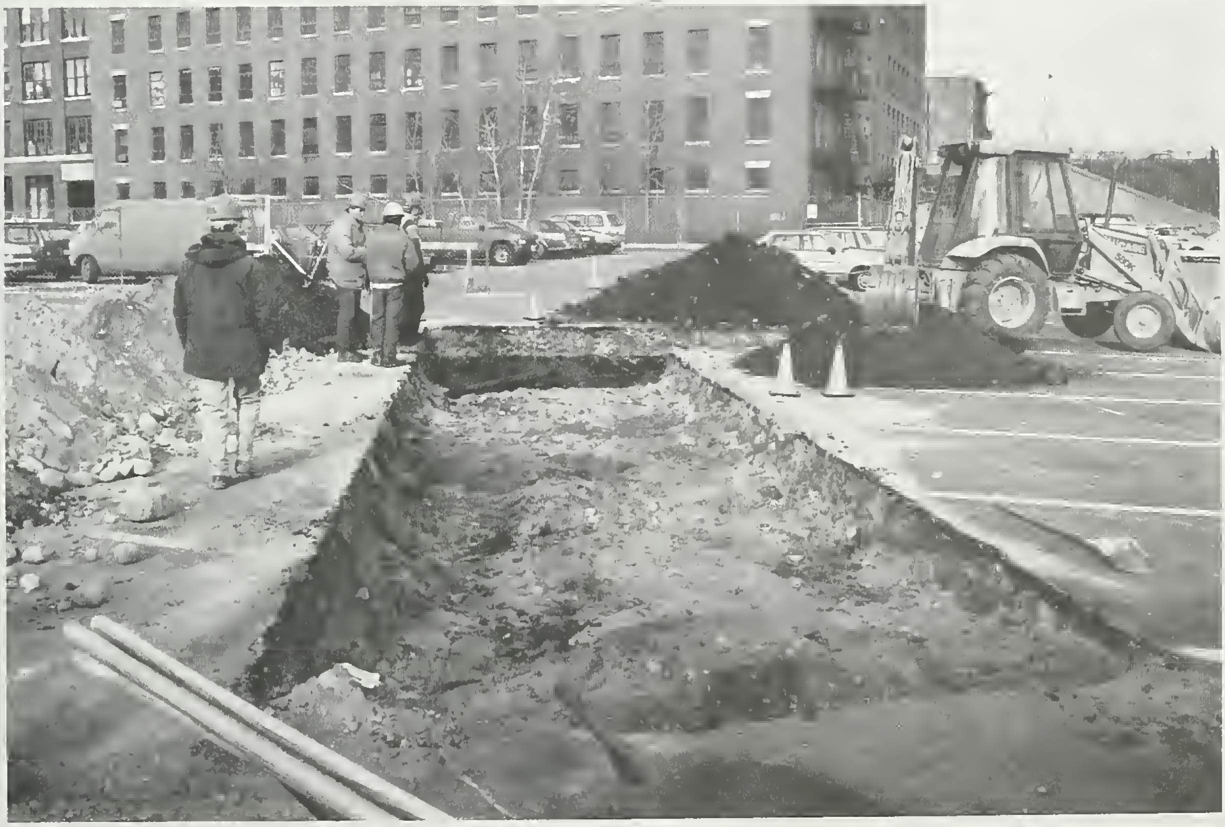

Figure 8.8 View of SB10 Showing Excavation in Progress

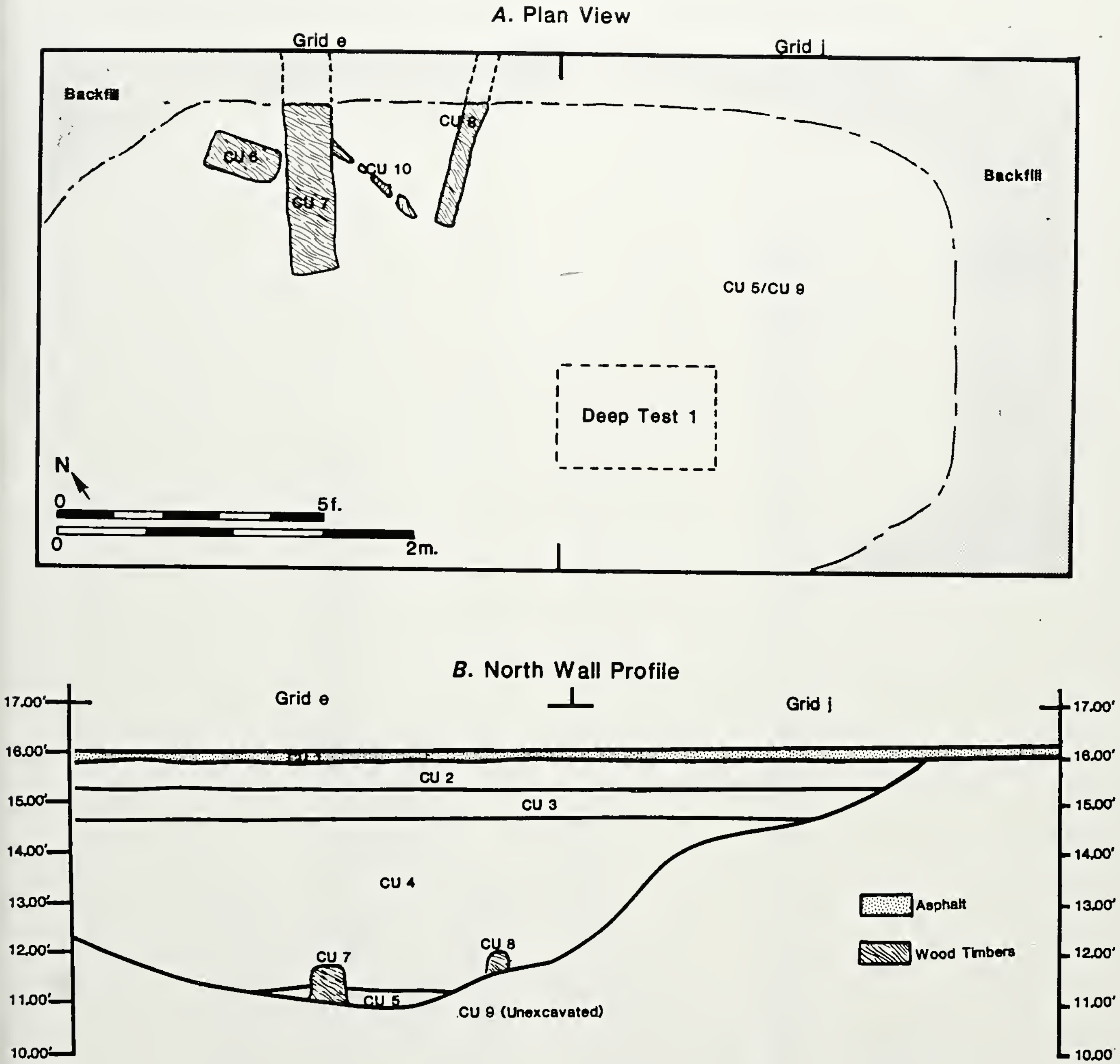

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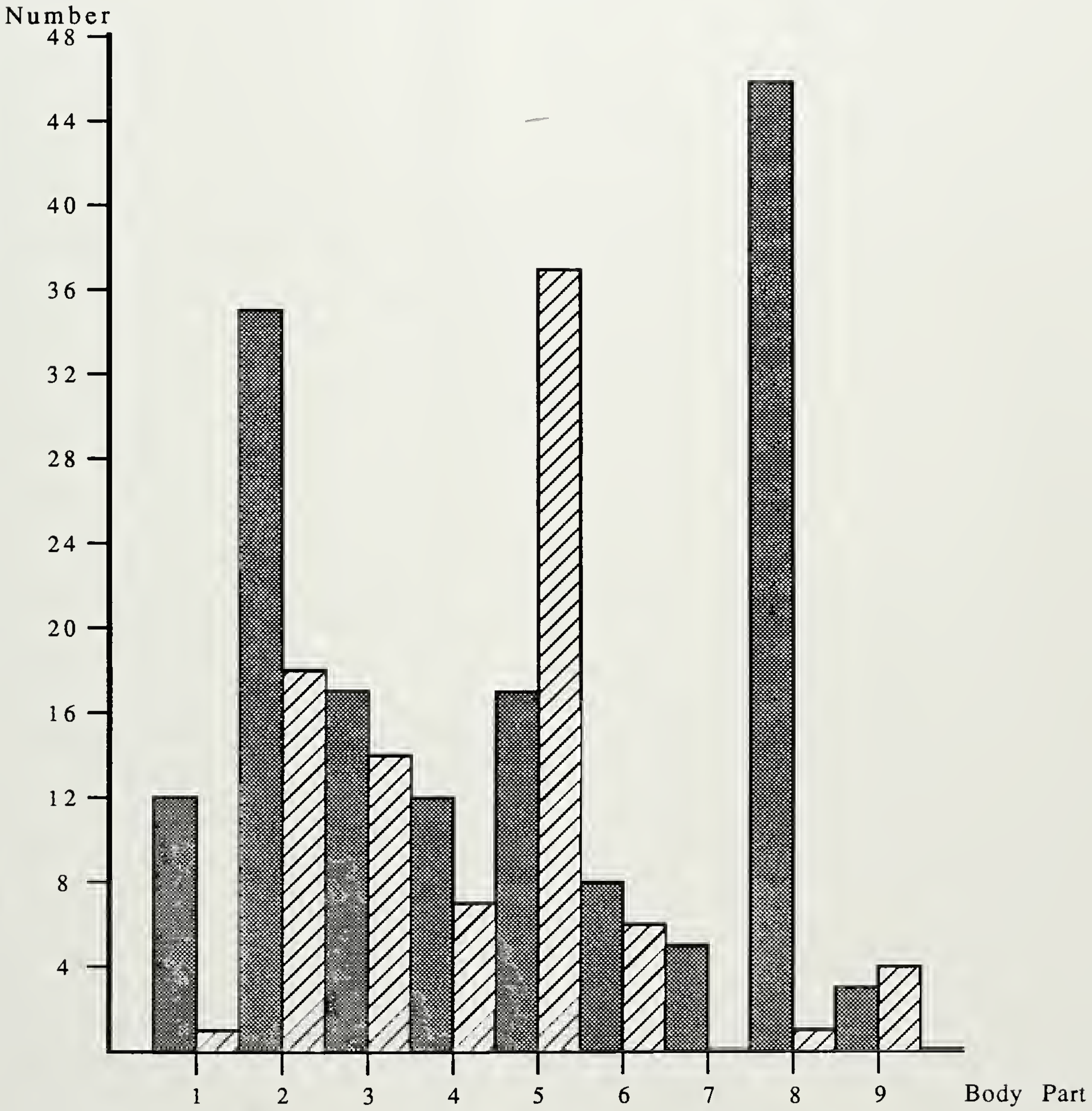
Figure 8.9 SB10. Plan and Profile

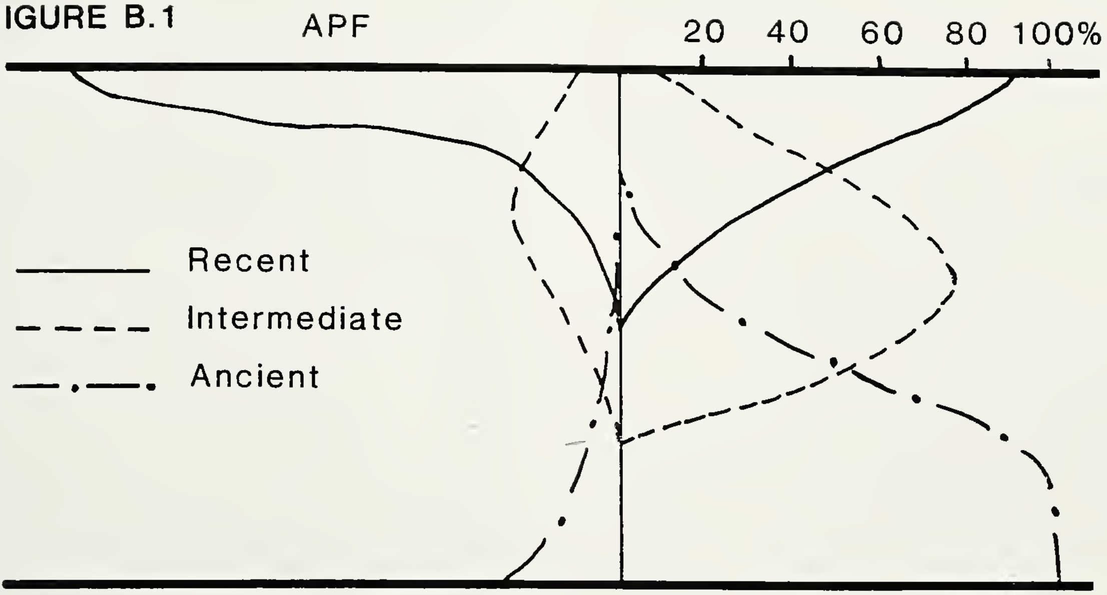
Figure A.1. Body Region Distribution and Butchery Marks for Sheep, Sheep/Goat, and Medium Mammal Remains from CU 15 and 32.



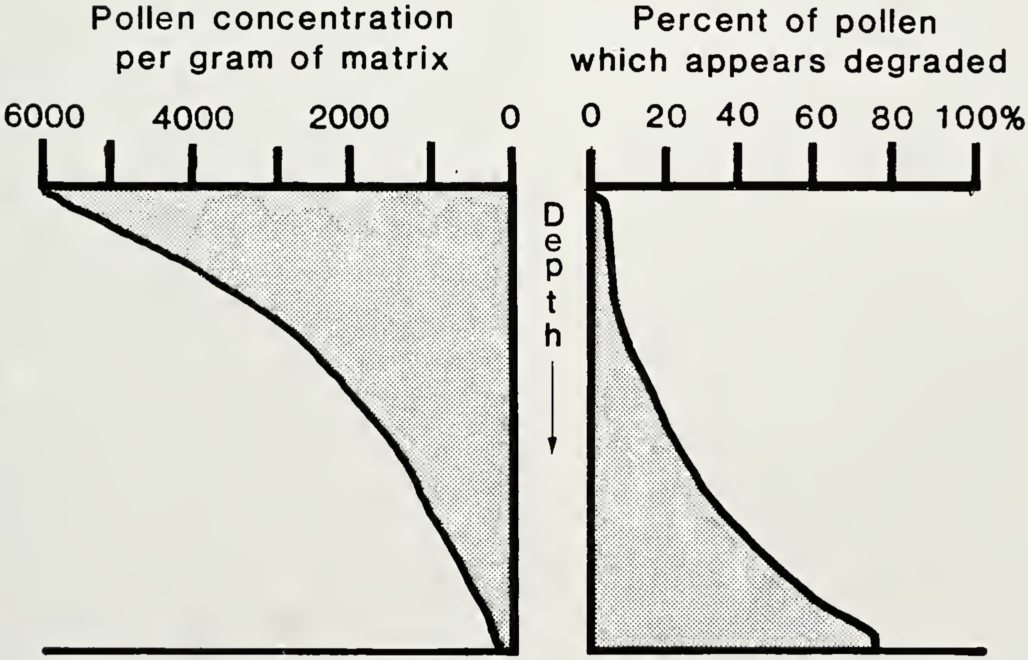
1-head (skull/mandible) 2-body (rib/vertebra) 3-upper forelimb (scapula/humerus)
4-lower forelimb (radius/ulna/carpal/metacarpal) 5-upper hindlimb (pelvis/femur)
6-lower hindlimb (tibia/fibula/tarsal/metatarsal) 7-foot (phalanx) 8-long bone shaft frag.
9-indeterminate metapodial

▩ Number of Fragments ▨ Number of Butchery Marks

FIGURE B.1



THEORETICAL DISTRIBUTION IN SOIL OF POLLENS OF DIFFERENT AGES (after Dimbleby 1985)



THEORETICAL POLLEN CONCENTRATION AND DEGRADATION IN A SOIL PROFILE

FIGURE B.2

SCOTTOW'S DOCK TERRESTRIAL PROFILE
BOSTON, MASSACHUSETTS

CORROSION MEASURES VS. POLLEN CONCENTRATION

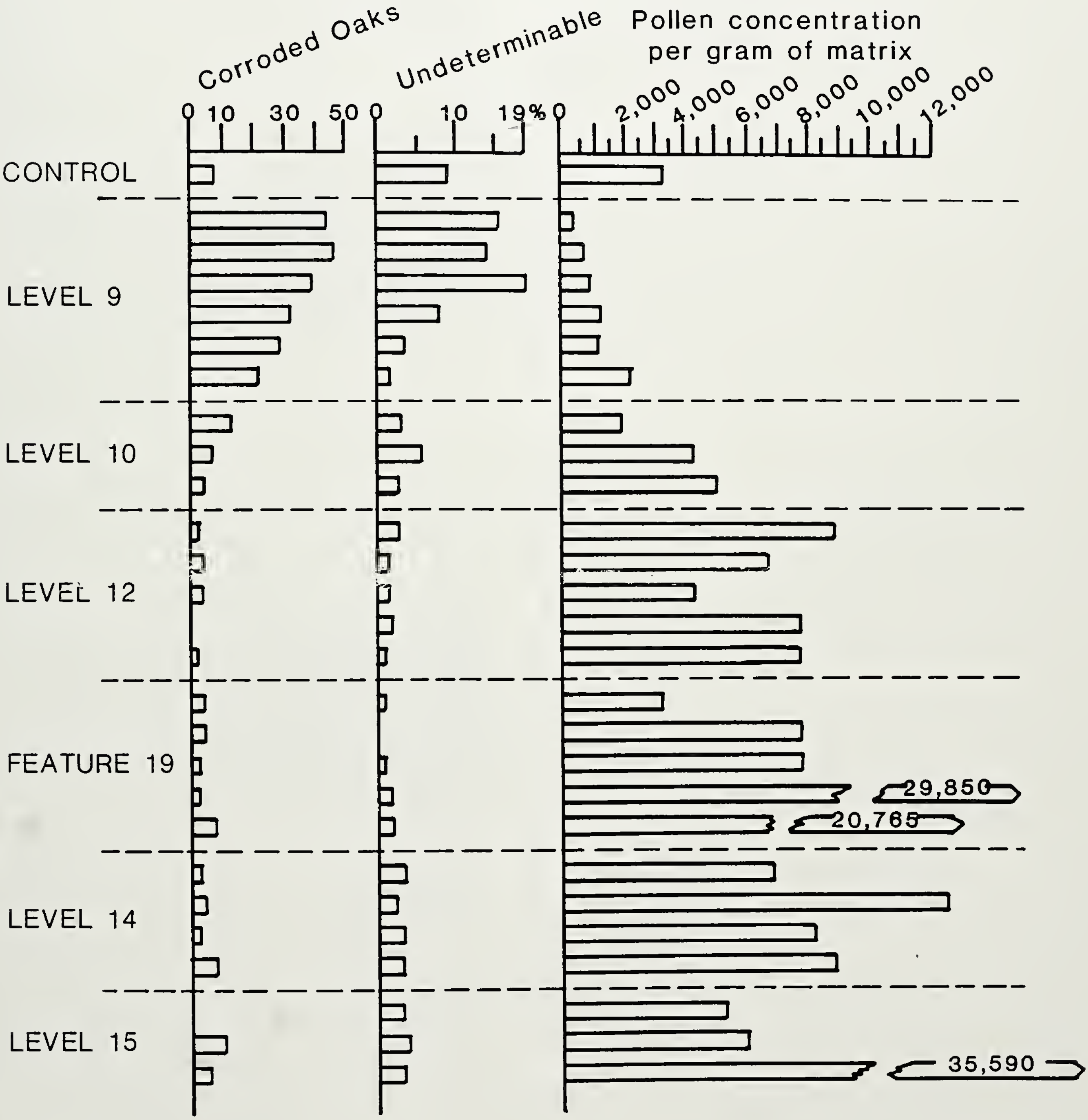
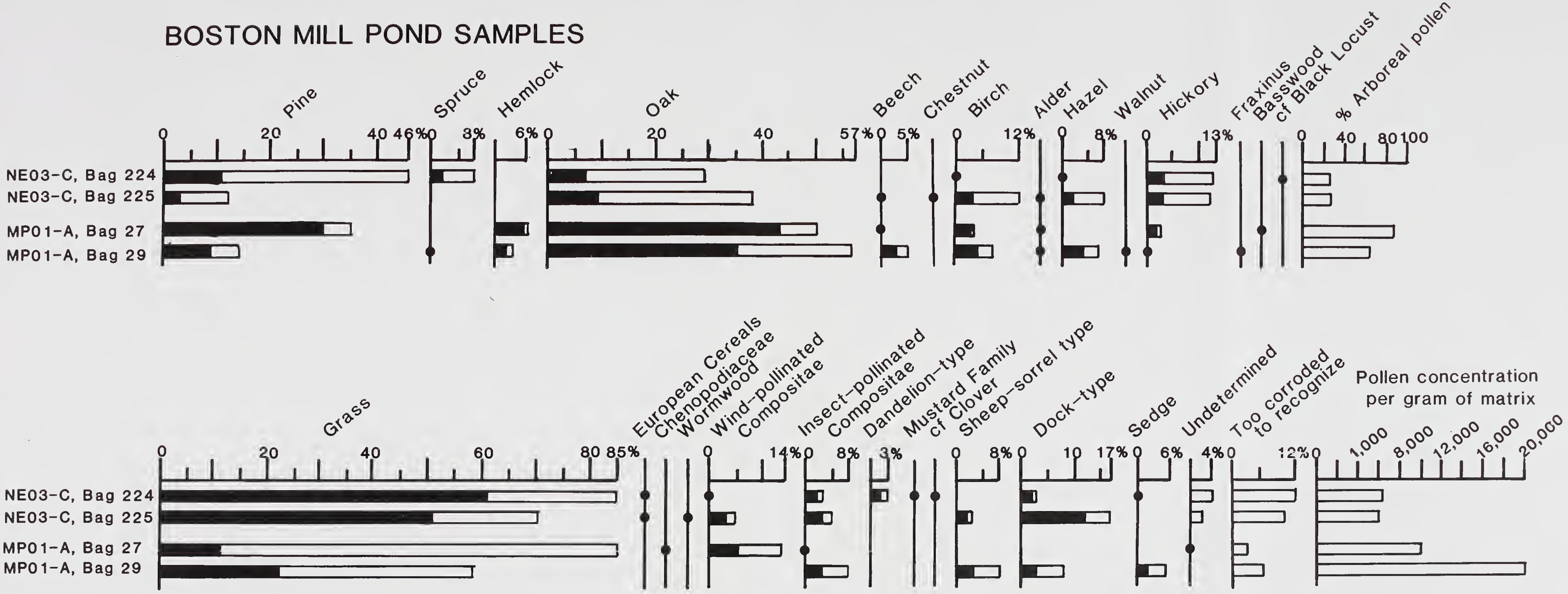


FIGURE B.3

BOSTON MILL POND SAMPLES



Private Dock inside Mill Pond {
NE03, Trench A, CU3 (Bag 224)
NE03, Trench A, CU3 (Bag 225)

Mill Pond Fill at Causeway St. {
MP01, Trench A, CU15 (Bag 27) Clay with shell and plant fragments
MP01, Trench A, CU15 (Bag 29) Mill Pond bottom muck

% based on total pollen sum ▬▭ % based on AP or NAP sum only ● Single pollen grains

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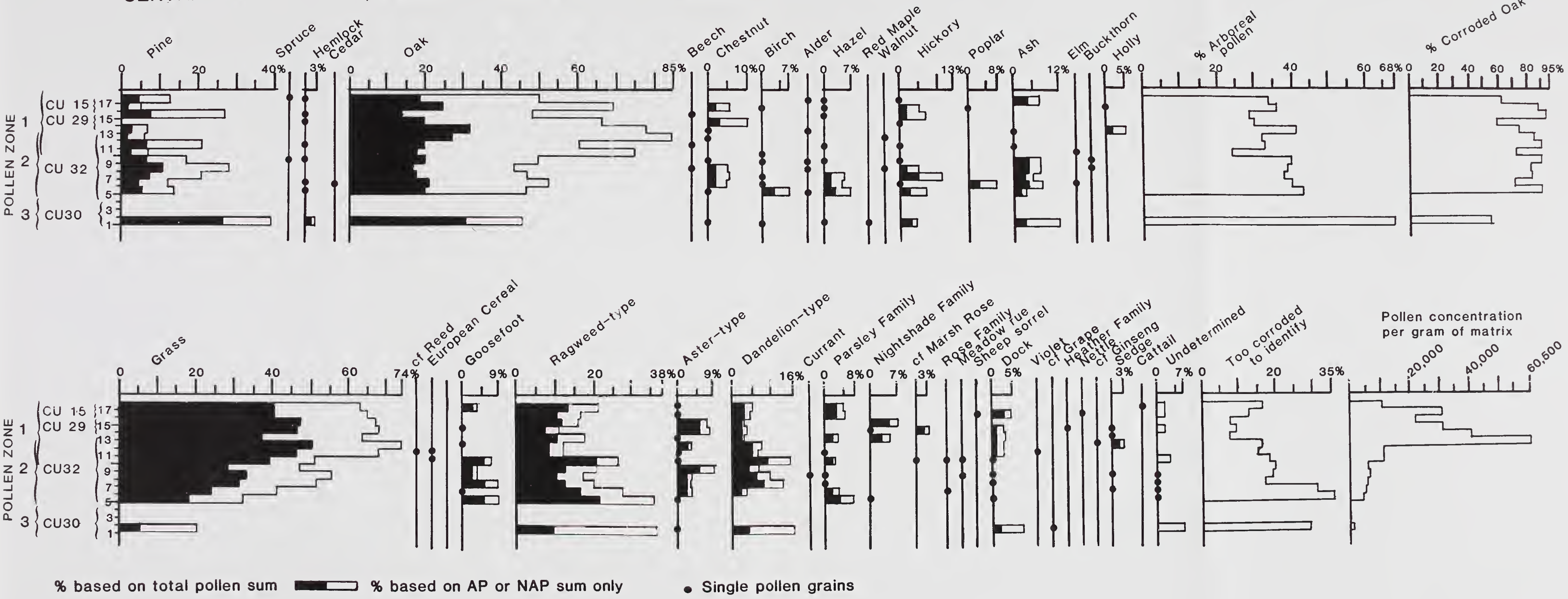
FIGURE B.4

CENTRAL ARTERY NE03, TRENCH C, GRID j, BAG 348, POLLEN PROFILE



Tables

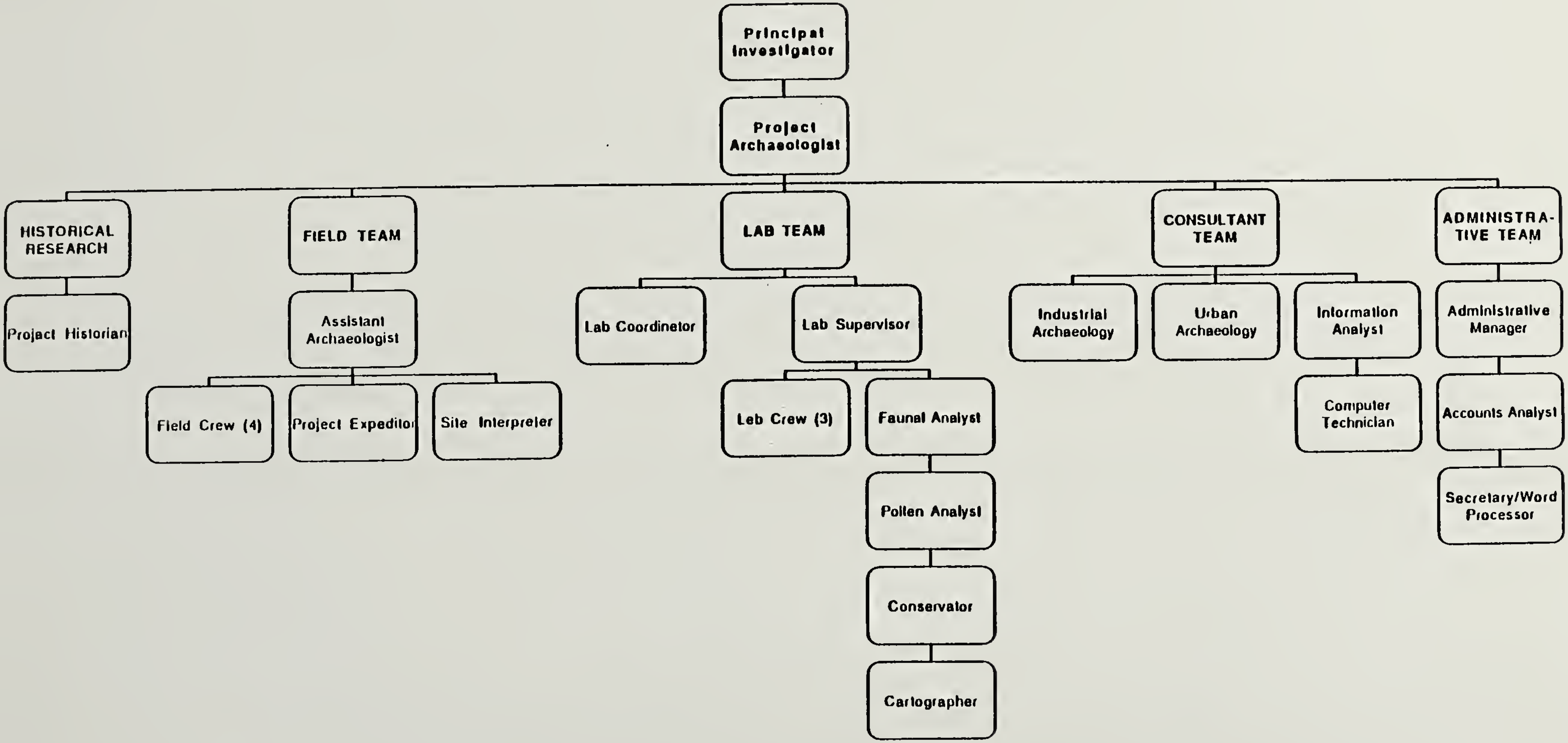


Table 2.1

OPA Phase II Archaeological Program
I-93/I-90 Project
Organizational Chart

Table 3.1 MP01 Trench A. Artifact Summaries for Selected Contextual Units

		CU 7	CU 11	CU 12	CU 13	CU 14	CU 15	CU 18	CU 19
CERAMICS	**EARTHENWARE**								
	Tin Glazed							2	4
	Slipware				1			1	3
	North Devon								
	Blk Glzd. Redware								
	Other Redware	1	2		39			5	8
	Creamware	1			3			2	4
	Pearlware	5	11		10			16	9
	Whiteware	7	13	1	10			31	27
	Other	2	6		1			4	6
	Total	**16**	**32**	**1**	**64**	**0**	**0**	**61**	**61**
	STONEWARE								
	Brown Frechen								1
	Westerwald								3
	Nottingham								
	Staffordshire								
	White Salt Glzd								1
	Amer./Albany Slip	5	2		2			1	1
	Other	3	1					1	
	Total	**8**	**3**	**0**	**2**	**0**	**0**	**2**	**6**
	PORCELAIN								
	Chinese Export	1	1					4	3
	English								
	Porcellaneous	1	1					4	2
	Other				1				
	Total	**2**	**2**	**0**	**1**	**0**	**0**	**8**	**5**
PIPES	**PIPE**								
	4/64								3
	5/64				1			1	1
	6/64								
	7/64								
	8/64								
	Stem Frag.								
	Bowl Frag.								
	Total	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**4**

Table 3.1 continued MP01 Trench A. Artifact Summaries for Selected Contextual Units

	CU 7	CU 11	CU 12	CU 13	CU 14	CU 15	CU 18	CU 19
GLASS								
Bottle	5	23		8			76	85
Stemware								
Tumbler							1	
Window	4	5		6			60	37
Other	2						20	3
Total	**11**	**28**	**0**	**14**	**0**	**0**	**157**	**125**
BUTTON								
Bone								
Ceramic								
Glass								
Metal								
Shell							1	
Other								
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
COIN								
U.S.							1	
European								
Other								
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
CUTLERY								
Fork				1			2	
Knife								
Spoon							2	2
Other								
Total	**0**	**0**	**0**	**1**	**0**	**0**	**4**	**2**
LEATHER								
Shoe				1			1	1
Other								
Total	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**
METAL								
Buckle								
Other		1		2			23	11
Total	**0**	**1**	**0**	**2**	**0**	**0**	**23**	**11**

Table 3.1 continued MP01 Trench A. Artifact Summaries for Selected Contextual Units

	CU 7	CU 11	CU 12	CU 13	CU 14	CU 15	CU 18	CU 19
NAIL								
Handwrought								
Machine Cut				1			8	9
Wire							9	12
Spike								1
Tack								
Other	4	2		1			65	32
Total	**4**	**2**	**0**	**2**	**0**	**0**	**82**	**54**
ORGANIC								
Bone	2	4		8		1	215	14
Coal							1	1
Seed							1	
Shell	1			40			11	27
Wood							21	5
Other								
Total	**3**	**4**	**0**	**48**	**0**	**1**	**249**	**47**
STONE								
Flint								
Granite								
Marble							4	5
Slate	4						1	1
Other	1						1	1
Total	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**7**
MISCELLANEOUS								
Architec. Ceram.				2			4	4
Brick		1		1			4	3
Other Mineral			2				13	10
Synthetic		2	1				29	58
Other								
Total	**0**	**3**	**3**	**3**	**0**	**0**	**50**	**75**
ARTIFACT TOTAL	**49**	**75**	**4**	**139**	**0**	**1**	**646**	**398**

Table 3.1 continued MP01 Trench A. Artifact Summaries for Selected Contextual Units

		CU 21	CU 27	CU 28	CU 29	CU 31
CERAMICS	**EARTHENWARE**					
	Tin Glazed	3				
	Slipware	1			1	
	North Devon					
	Blk Glzd. Redware	2		2	1	
	Other Redware	11	15	4	6	2
	Creamware	9	12	9	9	3
	Pearlware	3	64	12	22	3
	Whiteware	13	70	40	13	
	Other	3	5	2		
	Total	**45**	**166**	**69**	**52**	**8**
	STONEWARE					
	Brown Frechen	1				
	Westerwald	5				
	Nottingham		1	1	2	
	Staffordshire	1	1			
	White Salt Glzd	6	1			
	Amer./Albany Slip				1	
	Other					
	Total	**13**	**3**	**1**	**3**	**0**
	PORCELAIN					
	Chinese Export	4	5	3	2	1
	English		1			
	Porcellaneous			1	1	
	Other					
	Total	**4**	**6**	**4**	**3**	**1**
PIPES	**PIPE**					
	4/64	1				
	5/64	4	1		6	
	6/64					
	7/64					
	8/64					
	Stem Frag.				1	
	Bowl Frag.		1			
	Total	**5**	**2**	**0**	**7**	**0**

Table 3.1 continued MP01 Trench A. Artifact Summaries for Selected Contextual Units

	CU 21	CU 27	CU 28	CU 29	CU 31
GLASS					
Bottle	20	16	9	19	3
Stemware					
Tumbler					
Window	17	18	10	6	3
Other		5		5	1
Total	37	39	19	30	7
BUTTON					
Bone					
Ceramic					
Glass					
Metal					
Shell					
Other					
Total	0	0	0	0	0
COIN					
U.S.					
European					
Other					
Total	0	0	0	0	0
CUTLERY					
Fork					
Knife					
Spoon					
Other					
Total	0	0	0	0	0
LEATHER					
Shoe		25			
Other		3			
Total	0	28	0	0	0
METAL					
Buckle					
Other	2		9	3	
Total	2	0	9	3	0

Table 3.1 continued MP01 Trench A. Artifact Summaries for Selected Contextual Units

	CU 21	CU 27	CU 28	CU 29	CU 31
NAIL					
Handwrought					
Machine Cut					
Wire				2	
Spike					
Tack					
Other	15	9	3	9	
Total	**15**	**9**	**3**	**11**	**0**
ORGANIC					
Bone	27	101	13	20	2
Coal		5			2
Seed					
Shell	3	11	11	28	5
Wood	4	18	3	4	11
Other					
Total	**34**	**135**	**27**	**52**	**20**
STONE					
Flint					
Granite					
Marble					
Slate	1				2
Other					
Total	**1**	**0**	**0**	**0**	**2**
MISCELLANEOUS					
Architec. Ceram.					
Brick	3	1		4	29
Other Mineral	1	6	2	1	1
Synthetic	4	5			
Other		1		2	1
Total	**8**	**13**	**2**	**7**	**31**
ARTIFACT TOTAL	**164**	**401**	**134**	**172**	**69**

Table 4.1 NE03 Trench A. Artifact Summaries for Selected Contextual Units

		CU 3	CU 6	CU 7	CU 11	CU 12	CU 13	CU 14	CU 30	CU 31
CERAMICS	**EARTHENWARE**									
	Tin Glazed	5	11	3	1			5	1	1
	Slipware	1	1	2	3			2	1	
	North Devon	1	1		1					
	Blk Glzd. Redware	1						1	1	
	Other Redware	7	9	8	10			9	6	5
	Creamware	30	22	5	36		2	38		
	Pearlware	19	20	4	21		3	20		
	Whiteware	24	1		20		1	14		
	Other		1	2	2			2		
	Total	**88**	**66**	**24**	**94**	**0**	**6**	**91**	**9**	**6**
	STONEWARE									
	Brown Frechen									
	Westerwald	2	2	1	2			2	2	
	Nottingham				2					1
	Staffordshire	1		1						
	White Salt Glzd	1	1	1	1			3		2
	Amer./Albany Slip							1		
	Other		2	1	4			3		1
	Total	**4**	**5**	**4**	**9**	**0**	**0**	**9**	**2**	**4**
	PORCELAIN									
	Chinese Export	2	4	1	1			1		1
	English				1			1		
	Porcellaneous	4			2			2		
	Other				1					
	Total	**6**	**4**	**1**	**5**	**0**	**0**	**4**	**0**	**1**
PIPES	**PIPE**									
	4/64	3		1	3			1		
	5/64	2	4	2	2			1	3	
	6/64	2		3	1				1	
	7/64	1	2		1			1		3
	8/64			1						2
	Stem Frag.		2							1
	Bowl Frag.	3			3			1	1	2
	Total	**11**	**8**	**7**	**10**	**0**	**0**	**4**	**5**	**8**

Table 4.1 continued NE03 Trench A. Artifact Summaries for Selected Contextual Units

	CU 3	CU 6	CU 7	CU 11	CU 12	CU 13	CU 14	CU 30	CU 31
GLASS									
Bottle	20	3	1	21		3	35	7	
Stemware	1								
Tumbler				1					
Window	3	3	2	9		11	20	3	1
Other	8	3		10		1	19		1
Total	**32**	**9**	**3**	**41**	**0**	**15**	**74**	**10**	**2**
BUTTON									
Bone									
Ceramic									
Glass				1			1		
Metal									
Shell									
Other									
Total	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**
COIN									
U.S.									
European									
Other									
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CUTLERY									
Fork									
Knife									
Spoon									
Other									
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LEATHER									
Shoe	2								
Other	2			1				4	
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**
METAL									
Buckle									
Other	3	6	4	1		9	9	1	
Total	**3**	**6**	**4**	**1**	**0**	**9**	**9**	**1**	**0**

Table 4.1 continued NE03 Trench A. Artifact Summaries for Selected Contextual Units

	CU 3	CU 6	CU 7	CU 11	CU 12	CU 13	CU 14	CU 30	CU 31
NAIL									
Handwrought	1								
Machine Cut						3	3		
Wire	1								
Spike				1			1		
Tack									
Other	7	1	2	7		9	10	2	
Total	**9**	**1**	**2**	**8**	**0**	**12**	**14**	**2**	**0**
ORGANIC									
Bone	48	19	11	95		2	69	15	20
Coal	1						2		
Seed									
Shell	14	15	2	13			32	3	15
Wood	6	2		5			12	9	4
Other									
Total	**69**	**36**	**13**	**113**	**0**	**2**	**115**	**27**	**39**
STONE									
Flint							1		
Granite								1	
Marble		1							
Slate									
Other									1
Total	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**
MISCELLANEOUS									
Architec. Ceram.	7						1		
Brick	7	6		2		3	13	2	4
Other Mineral	4	4		2		1	12	1	2
Synthetic						1			
Other									
Total	**18**	**10**	**0**	**4**	**0**	**5**	**26**	**3**	**6**
ARTIFACT TOTAL	**244**	**146**	**58**	**287**	**0**	**49**	**348**	**64**	**67**

Table 4.2 NE03 Trench B. Artifact Summaries for Selected Contextual Units

		CU 13	CU 15	CU 30	CU 31	CU 32	CU 35	CU 39
CERAMICS	**EARTHENWARE**							
	Tin Glazed			3	7	8	6	1
	Slipware			2		2	3	4
	North Devon				1	4		
	Blk Glzd. Redware							
	Other Redware				6	13	5	1
	Creamware			1				
	Pearlware			3	1			1
	Whiteware	5		1				1
	Other				1		1	
	Total	**5**	**0**	**10**	**16**	**27**	**15**	**8**
	STONEWARE							
	Brown Frechen						1	
	Westerwald			1	1		3	2
	Nottingham							
	Staffordshire			1	1			
	White Salt Glzd			1	6	6	3	2
	Amer./Albany Slip							
	Other	1			1	2	1	
	Total	**1**	**0**	**3**	**9**	**8**	**8**	**4**
	PORCELAIN							
	Chinese Export				5	11	1	
	English						1	
	Porcellaneous	2		1				
	Other						3	
	Total	**2**	**0**	**1**	**5**	**11**	**5**	**0**
PIPES	**PIPE**							
	4/64				3	4	3	
	5/64			1	3	1	4	2
	6/64					1	3	
	7/64							
	8/64							
	Stem Frag.							
	Bowl Frag.						1	
	Total	**0**	**0**	**1**	**6**	**6**	**11**	**2**

Table 4.2 continued NE03 Trench B. Artifact Summaries for Selected Contextual Units

	CU 13	CU 15	CU 30	CU 31	CU 32	CU 35	CU 39
GLASS							
Bottle	4		4	9	6	3	2
Stemware							
Tumbler							
Window	28		4	8	18		1
Other	8		1	3	2	11	
Total	**40**	**0**	**9**	**20**	**26**	**14**	**3**
BUTTON							
Bone							
Ceramic							
Glass							
Metal	1						
Shell							
Other							
Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**
COIN							
U.S.							
European							
Other							
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**
CUTLERY							
Fork							
Knife							
Spoon							
Other							
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**
LEATHER							
Shoe	5						
Other							
Total	**5**	**0**	**0**	**0**	**0**	**0**	**0**
METAL							
Buckle							
Other	34	1	1		3	3	
Total	**34**	**1**	**1**	**0**	**3**	**3**	**0**

Table 4.2 continued NE03 Trench B. Artifact Summaries for Selected Contextual Units

	CU 13	CU 15	CU 30	CU 31	CU 32	CU 35	CU 39
NAIL							
Handwrought	8				2		
Machine Cut	7						
Wire	15						
Spike	1		1		1	1	
Tack							
Other	106	1	4	10	8	2	
Total	**137**	**1**	**5**	**10**	**11**	**3**	**0**
ORGANIC							
Bone	12	19	4	49	116	59	26
Coal	4						
Seed							
Shell		20		5	14	2	2
Wood	33				6	23	3
Other	3				1		
Total	**52**	**39**	**4**	**54**	**137**	**84**	**31**
STONE							
Flint							
Granite							
Marble							
Slate						1	1
Other							
Total	**0**	**0**	**0**	**0**	**0**	**1**	**1**
MISCELLANEOUS							
Architec. Ceram.	9						
Brick				1	8		1
Other Mineral	5			1	1		1
Synthetic				1			
Other				1			
Total	**14**	**0**	**0**	**4**	**9**	**0**	**2**
ARTIFACT TOTAL	**291**	**41**	**34**	**124**	**238**	**144**	**51**

Table 4.3 NE03 Trench C. Artifact Summaries for Selected Contextual Units

		CU 15	CU 29	CU 32	CU 43	CU 58	CU 59
CERAMICS	**EARTHENWARE**						
	Tin Glazed	22	12	109	5	4	
	Slipware	9	5	32	1	1	1
	North Devon		2	35		1	1
	Blk Glzd. Redware						
	Other Redware	86	36	121	8	7	7
	Creamware	23	5	1	1		
	Pearlware	8			1		
	Whiteware	1					
	Other	4	5	21			3
	Total	**153**	**65**	**319**	**16**	**13**	**12**
	STONEWARE						
	Brown Frechen	4		26			1
	Westerwald	13	5	56	2	2	1
	Nottingham	5	1	3			
	Staffordshire	1	2	8	1		
	White Salt Glzd	12	13	6	1		
	Amer./Albany Slip						
	Other	17	5	52	1		
	Total	**52**	**26**	**151**	**5**	**2**	**2**
	PORCELAIN						
	Chinese Export	8	7	2			
	English		9	3			
	Porcellaneous	1					
	Other	1		2			
	Total	**10**	**16**	**7**	**0**	**0**	**0**
PIPES	**PIPE**						
	4/64	5	6	10	4		
	5/64	15	10	44	3	4	
	6/64	3	1	14	1	1	
	7/64	4	1	9			
	8/64		1	1			
	Stem Frag.	3	1	15			
	Bowl Frag.	10	5	23	1		1
	Total	**40**	**25**	**116**	**9**	**5**	**1**

Table 4.3 continued NE03 Trench C. Artifact Summaries for Selected Contextual Units

	CU 15	CU 29	CU 32	CU 43	CU 58	CU 59
GLASS						
Bottle	63	88	78	5	2	1
Stemware		1	2			
Tumbler						
Window	50	25	30	4		
Other	43	9	22	2		1
Total	**156**	**123**	**132**	**11**	**2**	**2**
BUTTON						
Bone						
Ceramic						
Glass						
Metal	1					
Shell						
Other						
Total	**1**	**0**	**0**	**0**	**0**	**0**
COIN						
U.S.						
European						
Other			1			
Total	**0**	**0**	**1**	**0**	**0**	**0**
CUTLERY						
Fork						
Knife						
Spoon						
Other						
Total	**0**	**0**	**0**	**0**	**0**	**0**
LEATHER						
Shoe						
Other						
Total	**0**	**0**	**0**	**0**	**0**	**0**
METAL						
Buckle			2			
Other	44	69	76	3		2
Total	**44**	**69**	**78**	**3**	**0**	**2**

Table 4.3 continued NE03 Trench C. Artifact Summaries for Selected Contextual Units

	CU 15	CU 29	CU 32	CU 43	CU 58	CU 59
NAIL						
Handwrought	16	4	6	3		
Machine Cut	3	4	1	5		
Wire						
Spike	2	10	11	1		
Tack		1	1			
Other	83	117	108	11	3	1
Total	**104**	**136**	**127**	**20**	**3**	**1**
ORGANIC						
Bone	213	104	584	10	24	23
Coal		3				
Seed						
Shell	17	44	140	2	7	11
Wood	24	17	14	6		
Other						1
Total	**254**	**168**	**738**	**18**	**31**	**35**
STONE						
Flint	1	3	87		1	1
Granite						
Marble						
Slate	2	4	4		2	
Other			1			
Total	**3**	**7**	**92**	**0**	**3**	**1**
MISCELLANEOUS						
Architec. Ceram.	4	1	3			
Brick	17	10	35	2	1	8
Other Mineral	8	3	9			
Synthetic						
Other			2			
Total	**29**	**14**	**49**	**2**	**1**	**8**
ARTIFACT TOTAL	**844**	**649**	**1810**	**84**	**60**	**64**

Table 4.4 NE03 Trench C. Artifact Summaries for Selected Contextual Units

		CU 42	CU 54
CERAMICS	**EARTHENWARE**		
	Tin Glazed	13	3
	Slipware	3	2
	North Devon		
	Blk Glzd. Redware		
	Other Redware	8	4
	Creamware	6	
	Pearlware		
	Whiteware	1	
	Other	2	12
	Total	**33**	**21**
	STONEWARE		
	Brown Frechen	1	3
	Westerwald	3	
	Nottingham		
	Staffordshire		
	White Salt Glzd	3	
	Amer./Albany Slip		
	Other	4	2
	Total	**11**	**5**
	PORCELAIN		
	Chinese Export		
	English	1	
	Porcellaneous		
	Other		
	Total	**1**	**0**
PIPES	**PIPE**		
	4/64	1	
	5/64	3	
	6/64	1	1
	7/64		
	8/64		
	Stem Frag.	1	1
	Bowl Frag.	1	
	Total	**7**	**2**

Table 4.4 continued NE03 Trench C. Artifact Summaries for Selected Contextual Units

	CU 42	CU 54
GLASS		
Bottle	7	
Stemware		
Tumbler	1	
Window	6	2
Other	5	1
Total	**19**	**3**
BUTTON		
Bone		
Ceramic		
Glass		
Metal		
Shell		
Other		
Total	**0**	**0**
COIN		
U.S.		
European		
Other		
Total	**0**	**0**
CUTLERY		
Fork		
Knife		
Spoon		
Other		
Total	**0**	**0**
LEATHER		
Shoe		
Other		
Total	**0**	**0**
METAL		
Buckle		
Other	7	
Total	**7**	**0**

Table 4.4 continued NE03 Trench C. Artifact Summaries for Selected Contextual Units

	CU 42	CU 54
NAIL		
Handwrought	1	
Machine Cut		
Wire		
Spike	1	
Tack		
Other	4	4
Total	**6**	**4**
ORGANIC		
Bone	86	26
Coal	2	
Seed		
Shell	9	3
Wood	2	
Other		
Total	**99**	**29**
STONE		
Flint	2	1
Granite		
Marble		
Slate		1
Other		
Total	**2**	**2**
MISCELLANEOUS		
Architec. Ceram.	2	
Brick	1	
Other Mineral	4	
Synthetic		
Other		
Total	**7**	**0**
ARTIFACT TOTAL	**192**	**66**

Table 4.5 NE03 Trench C. Artifact Summaries for Selected Contextual Units

		CU 49	CU 52	CU 51
CERAMICS	**EARTHENWARE**			
	Tin Glazed	8	4	61
	Slipware	1	2	29
	North Devon		19	8
	Blk Glzd. Redware		7	
	Other Redware	12	33	98
	Creamware	30	46	
	Pearlware	29	59	4
	Whiteware	3		
	Other	3	2	26
	Total	**86**	**172**	**226**
	STONEWARE			
	Brown Frechen			9
	Westerwald		1	231
	Nottingham			4
	Staffordshire			
	White Salt Glzd		1	7
	Amer./Albany Slip	1	1	
	Other	1	2	14
	Total	**2**	**5**	**265**
	PORCELAIN			
	Chinese Export	3	6	
	English	1	3	2
	Porcellaneous	1		
	Other	1		2
	Total	6	**9**	**4**
PIPES	**PIPE**			
	4/64	3	3	9
	5/64	5	2	27
	6/64	2	1	8
	7/64	1	1	6
	8/64			2
	Stem Frag.	1		4
	Bowl Frag.	1		18
	Total	**13**	**7**	**74**

Table 4.5 continued NE03 Trench C. Artifact Summaries for Selected Contextual Units

	CU 49	CU 52	CU 51
GLASS			
Bottle	15	6	67
Stemware			1
Tumbler			
Window	4	13	21
Other	1	10	8
Total	**20**	**29**	**97**
BUTTON			
Bone			
Ceramic			
Glass			
Metal	1		
Shell			
Other			
Total	**1**	**0**	**0**
COIN			
U.S.			
European			
Other			
Total	**0**	**0**	**0**
CUTLERY			
Fork			
Knife			
Spoon			
Other			
Total	**0**	**0**	**0**
LEATHER			
Shoe		43	
Other		2	
Total	**0**	**45**	**0**
METAL			
Buckle			
Other			17
Total	**0**	**0**	**17**

Table 4.5 continued NE03 Trench C. Artifact Summaries for Selected Contextual Units

	CU 49	CU 52	CU 51
NAIL			
Handwrought			3
Machine Cut			
Wire			
Spike			
Tack			1
Other	10	19	99
Total	**10**	**19**	**103**
ORGANIC			
Bone	40	50	285
Coal			
Seed		5	
Shell	2	1	23
Wood		29	6
Other	2	1	
Total	**44**	**86**	**314**
STONE			
Flint	1		22
Granite			
Marble			
Slate		1	2
Other			
Total	**1**	**1**	**24**
MISCELLANEOUS			
Architec. Ceram.	1		
Brick	1	6	6
Other Mineral		8	
Synthetic			
Other		1	1
Total	**2**	**15**	**7**
ARTIFACT TOTAL	**185**	**388**	**1131**

Table 4.6 NE03 Trench E. Artifact Summaries for Selected Contextual Units

		CU 26	CU 39	CU 42	CU 43	CU 44	CU 46
CERAMICS	**EARTHENWARE**						
	Tin Glazed	3	1				
	Slipware	1					
	North Devon						
	Blk Glzd. Redware	2			1		
	Other Redware	25	7		10	8	
	Creamware	199	61	3	121	160	
	Pearlware	329	52	1	81	128	
	Whiteware	20	7				
	Other	16	22		4	2	
	Total	**595**	**150**	**4**	**217**	**298**	**0**
	STONEWARE						
	Brown Frechen		1				
	Westerwald						
	Nottingham						
	Staffordshire						
	White Salt Glzd						
	Amer./Albany Slip	18	1				
	Other	5					
	Total	**23**	**2**	**0**	**0**	**0**	**0**
	PORCELAIN						
	Chinese Export						
	English	8	13	1	2	10	
	Porcellaneous	2			1		
	Other	1	2				
	Total	**11**	**15**	**1**	**3**	**10**	**0**
PIPES	**PIPE**						
	4/64	3					
	5/64					6	
	6/64						
	7/64	1					
	8/64						
	Stem Frag.						
	Bowl Frag.	4					
	Total	**8**	**0**	**0**	**0**	**6**	**0**

Table 4.6 continued NE03 Trench E. Artifact Summaries for Selected Contextual Units

	CU 26	CU 39	CU 42	CU 43	CU 44	CU 46
GLASS						
Bottle	346	60	8	61	247	
Stemware	7	1		5	7	
Tumbler	4	3		58	98	
Window	269	418	22	261	177	
Other	114	89	6	52	227	
Total	**740**	**571**	**36**	**437**	**756**	**0**
BUTTON						
Bone				1		
Ceramic						
Glass						
Metal				1		
Shell						
Other						
Total	**0**	**0**	**0**	**2**	**0**	**0**
COIN						
U.S.						
European						
Other						
Total	**0**	**0**	**0**	**0**	**0**	**0**
CUTLERY						
Fork						
Knife						
Spoon						
Other		1		1		
Total	**0**	**1**	**0**	**1**	**0**	**0**
LEATHER						
Shoe	3					
Other	1	4				
Total	**4**	**4**	**0**	**0**	**0**	**0**
METAL						
Buckle						
Other	13	2		1	4	
Total	**13**	**2**	**0**	**1**	**4**	**0**

Table 4.6 continued NE03 Trench E. Artifact Summaries for Selected Contextual Units

	CU 26	CU 39	CU 42	CU 43	CU 44	CU 46
NAIL						
Handwrought						
Machine Cut						
Wire	2					
Spike		1				
Tack						
Other	6	16		1	1	
Total	**8**	**17**	**0**	**1**	**1**	**0**
ORGANIC						
Bone	199	103	4	49	78	
Coal	3					
Seed				6		
Shell	22	17	2	60	43	
Wood	14	12		3	18	
Other	1	3	5		31	
Total	**239**	**135**	**11**	**118**	**170**	**0**
STONE						
Flint						
Granite						
Marble				1		
Slate	3	1		1	4	
Other		6			4	
Total	**3**	**7**	**0**	**2**	**8**	**0**
MISCELLANEOUS						
Architec. Ceram.	1			6	4	
Brick	9	7		1	4	
Other Mineral	3	14			35	
Synthetic	3	1				
Other				2	1	
Total	**16**	**22**	**0**	**9**	**44**	**0**
ARTIFACT TOTAL	**1660**	**926**	**52**	**791**	**1297**	**0**

Table 6.1 TCO2 Trench A. Artifact Summaries for Selected Contextual Units

		CU 16	CU 26	CU 27
CERAMICS	**EARTHENWARE**			
	Tin Glazed	1		
	Slipware			
	North Devon			
	Blk Glzd. Redware			
	Other Redware	17	3	
	Creamware	54		4
	Pearlware	9	1	1
	Whiteware			
	Other	4		
	Total	**85**	**4**	**5**
	STONEWARE			
	Brown Frechen	2		
	Westerwald			
	Nottingham	2		
	Staffordshire	13		2
	White Salt Glzd	1	2	
	Amer./Albany Slip			
	Other	11	1	2
	Total	**29**	**3**	**4**
	PORCELAIN			
	Chinese Export			
	English	2		
	Porcellaneous			
	Other	1		
	Total	**3**	**0**	**0**
PIPES	**PIPE**			
	4/64			
	5/64	1		
	6/64			
	7/64			
	8/64	1		
	Stem Frag.			
	Bowl Frag.	1		
	Total	**3**	**0**	**0**

Table 6.1 continued TC02 Trench A. Artifact Summaries for Selected Contextual Units

	CU 16	CU 26	CU 27
GLASS			
Bottle	15	2	5
Stemware			
Tumbler			
Window	4		
Other			
Total	**19**	**2**	**5**
BUTTON			
Bone			
Ceramic			
Glass			
Metal			
Shell			
Other			
Total	**0**	**0**	**0**
COIN			
U.S.			
European			
Other			
Total	**0**	**0**	**0**
CUTLERY			
Fork			
Knife			
Spoon			
Other			
Total	**0**	**0**	**0**
LEATHER			
Shoe		1	
Other			
Total	**0**	**1**	**0**
METAL			
Buckle			
Other	3		
Total	**3**	**0**	**0**

Table 6.1 continued TC02 Trench A. Artifact Summaries for Selected Contextual Units

	CU 16	CU 26	CU 27
NAIL			
Handwrought			
Machine Cut			
Wire			
Spike			
Tack			
Other	3		
Total	**3**	**0**	**0**
ORGANIC			
Bone	7		
Coal	5		1
Seed			
Shell	12	4	2
Wood	6	10	2
Other	1		
Total	**31**	**14**	**5**
STONE			
Flint	213	18	53
Granite			
Marble			
Slate	1		
Other			
Total	**214**	**18**	**53**
MISCELLANEOUS			
Architec. Ceram.		3	
Brick	40	8	12
Other Mineral	3		
Synthetic		2	
Other	1		
Total	**44**	**13**	**12**
ARTIFACT TOTAL	**434**	**55**	**84**

Table 9.1 Summary of Phase II Recommendations

Site	National Register Eligibility	National Register Criteria
MP01 Trench A	No	—
MP01 Trench B	No	—
NE03 Trench A	Yes	C, D
NE03 Trench B	No	—
NE03 Trench C "Storage" lot	Yes	C, D
NE03 Trench C "Open Lot"	Yes	C, D
NE03 Trench D	No	—
NE03 Trench E	No	—
TC01	No	—
TC02	No	—
SC02	No	—
SB10	?*	?*

* National Register eligibility could not be determined due to presence of contaminated soils at SB10

Table A.1. Faunal Material Recovered by Site

Site/Trench	Bone	Shell	Coral	Total
MP01A	558	147	-	705
MP01B	8	7	-	15
NE03A	394	111	-	505
NE03B	385	26	-	411
NE03C	1738	292	1	2031
NE03D	-	-	-	0
NE03E	852	210	1	1063
TC01	1	-	-	1
TC02	11	21	-	32
SC02	1	-	-	1
SB10	-	-	-	0
TOTAL	3948	814	2	4764

Table A.2. General Breakdown of the Faunal Assemblage from NE03 Trench C, CU 15, 29, 32, 43

	Number	Percent
Identified Mammal[1]	360	44.9
Unidentified Mammal	163	20.4
Total Mammal	**523**	**65.3**
Identified Bird	9	1.1
Unidentified Bird	54	6.7
Total Bird	**63**	**7.9**
Unidentified Bivalves	197	24.6
Unidentified Fish	18	2.2
TOTAL FAUNA	**801**	**99.9**

[1] Identified at least to body part and size category.

Table A.3. Body Part, Species[1], and Size Category Distribution

body part	*Bos taurus* (cow)	*Sus scrofa* (pig)	*Ovis aries* (sheep)	*Odoc. virgin.* (deer)	*Ovis/ Capra* (caprid)	med.-small mammal	med. mammal	med.-large mammal	large mammal	Total
skull	2	3	-	-	-	2	11	1	-	19
mandible	4	2	-	-	2	-	1	1	-	10
loose teeth[2]	14	9	-	-	12	-	3	1	-	39
vertebra	8	1	2	-	1	2	10	11	6	41
rib/sternum	-	-	-	-	-	1	29	10	13	53
pelvis	-	1	-	-	3	1	4	-	-	9
scapula	-	-	1	-	3	-	5	-	-	9
humerus	3	1	3	-	-	1	5	-	-	13
radius	1	-	-	1	2	-	6	-	-	10
ulna	2	-	1	-	-	-	1	-	-	4
carpal	-	-	-	-	-	-	-	-	-	0
metacarpal	-	1	4	1	2	-	-	-	-	8
femur	1	2	2	-	4	1	8	1	-	19
tibia	1	-	2	-	2	-	2	-	-	7
fibula	-	-	-	-	-	-	-	-	-	0
tarsal	3	-	2	-	2	-	-	-	-	7
metatarsal	1	2	1	-	-	-	1	-	-	5
phalanx	5	2	-	-	3	-	1	-	-	11
lng bne shft	-	-	-	-	-	5	49	11	22	87
indet. metpod	-	-	-	-	-	-	3	2	-	5
Total	45	24	18	2	36	13	139	38	41	356

[1] Includes all "cf." identifications.

[2] In the appended catalogue, loose teeth were recorded as skull or mandible if this could be determined.

Table A.4. Summary of Burn Damage

Type	Number
Stage 1	0
Stage 2	0
Stage 3	2
Stage 4	29
Total	**31** (3.9% of TNF)

Table A.5. Summary of Butchery Marks Recorded

Type	Number	Percentage
Scrape	82	37.4
Cut	46	21.0
Chop	15	6.8
Shear	70	32.0
Saw	6	2.7
Total	**219**	**99.9**